Not to be cited without
permission of the authors[1]

Canadian Atlantic Fisheries
Scientific Advisory Committee

CAFSAC Research Document 87/38

Ne pas citer sans
autorisation des auteurs[1]

Comité scientifique consultatif des
pêches canadiennes dans l'Atlantique

CSCPCA Document de recherche 87/38

Status of Atlantic salmon (*Salmo salar* L.) stocks of the Newfoundland Region, 1986

by

M. F. O'Connell, L. J. LeDrew, D. G. Reddin, and E.G.M. Ash
Science Branch
Department of Fisheries and Oceans
P. O. Box 5667
St. John's, Newfoundland A1C 5X1

[1] This series documents the scientific basis for fisheries management advice in Atlantic Canada. As such, it addresses the issues of the day in the time frames required and the Research Documents it contains are not intended as definitive statements on the subjects addressed but rather as progress reports on ongoing investigations.

Research Documents are produced in the official language in which they are provided to the Secretariat by the author.

[1] Cette série documente les bases scientifiques des conseils de gestion des pêches sur la côte atlantique du Canada. Comme telle, elle couvre les problèmes actuels selon les échéanciers voulus et les Documents de recherche qu'elle contient ne doivent pas être considérés comme des énoncés finals sur les sujets traités mais plutôt comme des rapports d'étape sur les études en cours.

Les Documents de recherche sont publiés dans la langue officielle utilisée par les auteurs dans le manuscrit envoyé au secrétariat.

Abstract

Commercial landings of small and large salmon (preliminary data) for the insular Newfoundland portion of the Newfoundland Region in 1986 were similar to 1985. For the Labrador portion of the Newfoundland Region however, commercial landings of small and large salmon in 1986 showed a marked improvement over 1985. Commercial landings of small salmon in both insular Newfoundland and Labrador in 1986 were comparable to historic levels; landings of large salmon in both areas in 1986 however remained well below historic levels. Recreational catches of grilse for insular Newfoundland in 1986 were comparable to 1985 and historic levels. Recreational catches of grilse for Labrador in 1986 were similar to 1985 and historic levels while catches of large salmon increased over 1985 but were below historic levels. Commercial and recreational catches and fishway counts suggest that the abundance of small and large salmon in insular Newfoundland in 1986 was somewhat similar to 1985; catches in Labrador suggest that the abundance of small and large salmon in 1986 was higher than in 1985. Predictions regarding catches of small and large salmon for Labrador and small salmon for insular Newfoundland in 1987 are provided.

Résumé

Les débarquements commerciaux de petits et gros saumons (données préliminaires) pour la partie insulaire de la région de Terre-Neuve en 1986 ont été analogues à ceux de 1985. Pour la partie labradorienne de la région de Terre-Neuve toutefois des débarquements commerciaux de petits et gros saumons présentent une amélioration marquée par rapport à ce qu'ils étaient en 1985. Les débarquements commerciaux de petits saumons pour la partie insulaire de Terre-Neuve et pour le Labrador étaient comparables, en 1986, à ce qu'ils ont été historiquement; les débarquements de gros saumons dans les deux régions sont toutefois restés, en 1986, bien en deça de ce qu'ils ont été historiquement. Les captures récréatives de madeleineaux au Labrador en 1986 ont été analogues aux captures historiques et de 1985, tandis que les captures de gros saumons, bien que supérieures à celles de 1985, étaient tout de même inférieures à ce qu'elles ont été historiquement. Les captures commerciales et récréatives ainsi que les dénombrements aux échelles à poissons suggèrent que l'abondance des petits et gros saumons était en 1986 quelque peu analogue à ce qu'elle était en 1985; les captures effectuées au Labrador suggèrent que l'abondance des petits et gros saumons dans cette région était supérieure en 1986 à ce qu'elle était en 1985. Les prévisions concernant les captures de saumons petits et gros au Labrador et de petits saumons pour la partie insulaire de Terre-Neuve en 1987 sont fournies.

Introduction

This paper presents the status of Atlantic salmon stocks in the Labrador (Fig. 1) and insular Newfoundland (Fig. 2) portions of the Newfoundland Region in 1986. Catch and effort statistics for the commercial and recreational fisheries and fishway counts (insular Newfoundland) are examined in relation to historical data and the 1986 Management Plan.

Under the 1984 Management Plan, the start of the Newfoundland and Labrador commercial fishery was delayed until June 5 (compared to May 18 for 1981-83 and May 15 prior to 1981). A voluntary buy-back program involving both full-time and part-time fishermen went into effect for all Management Zones. These restrictions were implemented as a means of reducing the interception of mainland-origin salmon as well as salmon destined to return to rivers on the southwest coast of Newfoundland. An estimated 25% of the total catch (by weight) of Atlantic salmon taken in the Newfoundland and Labrador commercial fishery (1969-75) was of mainland origin (Pippy 1982). In 1985, the June 5 starting date remained in effect and there was a mandatory buy-back of part-time licenses. In 1986, there was a further reduction in the commercial fishing season. The opening date remained June 5; however, the closure date was October 15 as opposed to December 31 for years previous to 1986. As in 1984 and 1985, it was illegal in 1986 to retain salmon caught as by-catch. A mandatory tagging program was introduced for the first time in the commercial fishery in all areas of Newfoundland and Labrador in 1986. Licensed effort for the Newfoundland Region for the period from 1983 (prior to the restrictions outlined above) to 1986 is shown in Table 1.

With respect to the recreational fishery, in 1984 a hook-and-release policy pertaining to large salmon was adopted for insular Newfoundland; large salmon that were caught and released were considered part of the bag limit. Regulations governing grilse remained unchanged. Labrador was exempt from the hook-and-release regulation. In 1985, the hook-and-release regulation was extended to include grilse. Released fish were not considered part of the bag limit. Once the daily bag limit (two fish) was retained (grilse in insular Newfoundland; grilse and/or large salmon in Labrador), angling ceased for the day. In 1986, a limit of four was placed on the number of fish an angler could hook and release per day. Angling ceased for the day when one or the other daily bag limits (two fish retained or four fish hooked and released) was attained. A season bag limit of 15 fish was also imposed. With a few exceptions, river opening and closure dates were the same as in 1985.

Methods

The 1986 catch and effort data were added to that previously presented by Moores et al. (1978), Moores and Tucker (1979, 1980), Ash and Tucker (1984), Moores and Ash (1984), Ash and O'Connell (1986), and Ash and O'Connell (unpublished) for the recreational fishery and to that found in May and Lear (1971), Waldron (1974), Reddin and Waldron (1976), Moores and Dawe (1980), Reddin and Day (1980), Reddin and Short (1981), Short and Reddin (1981a, 1981b), Ash (1984), Moores et al. (1984), Ash and O'Connell (1986), and Ash and O'Connell (unpublished) for the commercial fishery. Effort in the commercial

fishery was presented as the numbers of gear units (50 fathoms of gill net or salmon trap) licensed to prosecute the fishery. Recreational fishing effort was presented as rod days (defined as any day or part thereof on which an angler fishes).

The calculation of mean weights of small and large salmon in the commercial fishery as well as estimated numbers of fish in each category followed procedures outlined in Ash and O'Connell (1986).

Means and 95% confidence intervals for ratio variables were calculated according to Cochran (1977).

Results

Newfoundland Region

Commercial fishery: The commercial catch (preliminary data) of small salmon for the entire Newfoundland Region in 1986 (Table 2) increased slightly over 1985 (7.3%). The catch of small salmon decreased from the 1974-85 mean (4.0%) and increased over the 1981-85 mean (4.1%). The catch of large salmon in 1986 increased over 1985 (29.1%) but was substantially below the 1974-85 mean (39.6%) and the 1981-85 mean (19.5%). The total catch of Atlantic salmon in 1986 showed an increase over 1985 (17.4%) but was below the 1974-85 mean (26.6%) and the 1981-85 mean (9.8%). Additional catch information, namely catch in terms of number, and percent small (by weight and by number), is presented in Appendix 1a.

Recreational fishery: The catch of grilse for the whole Newfoundland Region in 1986 (Table 2 and Appendix 2a) decreased from 1985 (6.7%); this catch represented an increase of 9.5% over the 1974-85 mean and a decrease of 6.3% from the 1981-85 mean. In light of regulations governing the retention of large salmon, comparisons for this component in terms of the entire Newfoundland Region are of no pertinent value. The same applies to total recreational catch.

Effort in 1986 showed a slight decrease from 1985 (4.0%), increased over the 1974-85 mean (11.3%) and decreased from the 1981-85 mean (2.6%). Catch per unit of effort (CPUE) in 1986 changed very little compared to 1985 and both means.

Insular Newfoundland

Commercial fishery: The commercial catch of small salmon for the insular Newfoundland portion of the Newfoundland Region in 1986 (Table 2 and Appendix 1b) decreased from 1985 (3.5%) and the 1974-85 mean (4.5%) but increased over the 1981-85 mean (5.3%). The catch of large salmon in 1986 decreased from 1985 (2.9%), the 1974-85 mean (44.8%) and the 1981-85 mean (25.4%). Total catch likewise decreased from 1985 (3.6%), the 1974-85 mean (26.9%) and the 1981-85 mean (10.3%).

105-04641/

Recreational fishery: The catch of grilse in 1986 (Table 2 and Appendix 2b) decreased by 8.7% from 1985; this represents an increase of 12.0% over the 1974-85 mean and a decrease of 6.6% from the 1981-85 mean.

Effort in 1986 decreased from 1985 (4.6%), increased over the 1974-85 mean (11.4%) and decreased from the 1981-85 mean (3.2%). CPUE in 1986 was very similar to 1985 and the two means.

Labrador

Commercial fishery: The catch of small salmon in the Labrador portion of the Newfoundland Region in 1986 (Table 2 and Appendix 1c) increased substantially over 1985 (57.3%) and was similar to both the 1974-85 (-2.5%) and the 1981-85 (+0.9%) means. The catch of large salmon in 1986 increased even more dramatically over 1985 (86.0%); this catch however was still below the 1974-85 mean (33.8%) and the 1981-85 mean (13.1%). Total catch in 1986 increased substantially over 1985 (75.8%) but was below the 1974-85 mean (26.2%) and the 1981-85 mean (9.1%).

Recreational fishery: The catch of grilse in 1986 (Table 2 and Appendix 2c) improved over 1985 by 20.0%; this catch was slightly below the 1974-85 mean (7.7%) and the 1981-85 mean (4.0%). The catch of large salmon showed a fair increase over 1985 (45.8%) but decreased from the 1974-85 mean (34.5%) and the 1981-85 mean (14.8%). Effort in 1986 increased over 1985 (14.8%), the 1974-85 mean (6.9%) and the 1981-85 mean (10.7%). CPUE in 1986 increased over 1985 (7.3%) but decreased from the 1974-85 mean (17.0%) and the 1981-85 mean (14.6%).

Status by Management Zone

Commercial catch data for each Management Zone of the Newfoundland Region are presented in Table 3 and Appendix 1d-n. Recreational catch and effort data are shown in Table 3 and Appendix 2d-n. Figures 1 and 2 show commercial (by weight) and recreational (no.) catches in 1986 for each zone expressed as percentages in relation to 1985 (panel a of each graph), the 1971-85 mean (panel b), and the 1981-85 mean (panel c).

Labrador

Zone 1: The commercial catch of small salmon in 1986 increased somewhat over 1985 and the 1981-85 mean and was slightly below the 1974-85 mean. The catch of large salmon increased over 1985 but was below both means being most pronounced for the 1974-85 mean.

The catch of grilse in the recreational fishery in 1986 was substantially below 1985 and both means. The catch of large salmon was slightly below 1985 but well below the means. Effort in 1986 decreased from 1985 and both means. CPUE increased somewhat over 1985 but fell substantially below the means.

Zone 2: In the commercial fishery, the 1986 catch of small salmon increased markedly over 1985 and was similar in magnitude to both means. Likewise, there was a substantial increase in the catch of large salmon over 1985; however, the catch remained below both means.

In 1986 there was a concurrent large increase in the catches of grilse and large salmon over 1985 in the recreational fishery. Catches were above both means for grilse and large salmon. Effort in 1986 increased over 1985 and both means. CPUE improved slightly over 1985 but was below both means.

Insular Newfoundland

Zone 3: The commercial catch of both small and large salmon in 1986 improved over 1985 and this was most pronounced for large salmon; catches for both however were substantially below the two means.

The catch of grilse in the recreational fishery in 1986 was substantially below 1985 and the means. Effort followed the same trend. CPUE was down marginally from 1985 and both means. Because of closures due to low water levels that spanned the greater part of the angling season, catch and effort were down considerably on the following rivers: Salmon River (Appendix 3); Northeast Brook (Appendix 4); Beaver Brook (Appendix 5); Cloud River (Appendix 6). The catch for Main River (Sop's Arm) in 1986 remained at the same low level as that exhibited since 1983 (Appendix 7).

Zone 4: The commercial catch of small salmon in 1986 showed a marked increase over 1985 and both means. The catch of large salmon increased considerably over 1985 and was similar to both means.

In the recreational fishery, the catch of grilse in 1986 decreased from 1985, increased over the 1974-85 mean and decreased from the 1981-85 mean. Although effort decreased from 1985, it was above both means. CPUE showed a decline from 1985 and both means. Catch in 1986 was noticeably down from 1985 and the 1974-85 and 1981-85 means for the following rivers: East Brook (Appendix 8); Charles Brook (Appendix 9); Indian Arm Brook (Appendix 10); Gander River (Appendix 11).

Counts of grilse and large salmon at fishways in Zone 4 are provided in Tables 4 and 5 respectively. The fishways concerned are located on Indian Brook, Exploits River (Bishop's Falls and Great Rattling Brook tributary) and Gander River (Salmon Brook tributary). The count of grilse at Indian Brook up to August 30 suggests that the run to that river compares well with previous years. Counts of grilse in 1986 declined noticeably from 1985 and the means at both fishways on the Exploits River. Salmon Brook also experienced a decline for grilse. Counts of large salmon on the Exploits River improved over 1985 but were below the means; counts for Indian Brook and Salmon Brook were below 1985 and the means. It should be cautioned that the means for Indian Brook and Exploits River should be higher because of the inclusion of partial counts.

Zone 5: The commercial catch of small salmon in 1986 declined from 1985 but was above the two means. The catch of large salmon was substantially below 1985 and both means.

The recreational catch of grilse in 1986 improved over 1985 and was markedly higher than both means. Effort in 1986 decreased from 1985 but was higher than the means. CPUE increased over 1985 and both means.

Fishways in Zone 5 are located on Middle Brook and Terra Nova River (upper and lower). The count of grilse for Middle Brook in 1986 (Table 4) improved over 1985 but was below the means. For Terra Nova River, there was a decline in numbers of grilse from 1985; however counts compared favorably with the means. The count of large salmon (Table 5) for Middle Brook in 1986 was down from 1985 and the means. For the lower Terra Nova River fishway, the count of large salmon improved over 1985 and the two means; for the upper fishway, the number in 1986 was similar to 1985 and compared well with the means. A partial count was included in the 1974-85 mean for Middle Brook.

Zones 6, 7 and 8: The commercial catches of both small and large salmon in 1986 decreased from 1985 for all zones; the largest decrease for small salmon occurred in Zone 6 while for large salmon it was in Zone 8. Catches of both small and large salmon decreased from both means in all cases except for small in Zones 6 and 8 where slight increases were noted over the 1981-85 means.

Grilse catches in the recreational fishery in 1986 increased over 1985 and both means in Zones 6 and 8 while the reverse was true for Zone 7. Effort increased over 1985 for Zones 6 and 8; in Zone 6 effort was below the means while in Zone 8 it increased. In Zone 7 effort decreased from 1985 and the means. CPUE showed an overall increase over 1985 and both means.

Zone 9: The commercial catch of small salmon in 1986 decreased from 1985 and both means. The catch of large salmon was the same as for 1985; it was well below the 1974-85 mean and the same as the 1981-85 mean.

The catch of grilse in the recreational fishery in 1986 increased substantially over 1985 and both means. Effort was down slightly from 1985 and marginally above the means. CPUE increased over 1985 and both means.

A number of counting fences have been operated on rivers in Zone 9 for the past several years. The rivers involved are Biscay Bay River, Northeast Brook (Trepassey), Colinet River, and Little Salmonier River. Numbers of grilse counted on Colinet River and Little Salmonier River (Table 4) in 1986 compared well with previous years. There was a noticeable increase for Northeast Brook, Trepassey. Prior to 1985, most fish angled on Biscay Bay River (approximately 90% of the total catch) were taken above the counting fence. In 1985 and 1986, there was a redistribution of effort on that river with the result that approximately 90% of fish were caught below the fence. Therefore approximately 350 grilse can be added to the escapement for 1986, making it the highest recorded to date.

The count of large salmon in Biscay Bay River in 1986 was the highest recorded (Table 5). Counts for the remaining rivers however were among the lowest recorded.

Zone 10: The commercial catch of small salmon in 1986 decreased from 1985 but increased over the means. The catch of large salmon was the same as for 1985 but below the means.

In the recreational fishery the catch of grilse in 1986 increased over 1985 and both means. The reverse was true for effort. CPUE showed a substantial increase over 1985 and both means.

The count of grilse at the Northeast River (Placentia) fishway increased dramatically over 1985 and the means (Table 4). The number of large salmon counted however was similar to previous years (Table 5). As noted above, partial counts were included in the means.

Zone 11: The commercial catch of small salmon in 1986 decreased from 1985; however, the catch was higher than both means. The catch of large salmon showed a marked decline from 1985 and both means.

The recreational catch of grilse in 1986 decreased slightly from 1985, increased over the 1974-85 mean and decreased from the 1981-85 mean. Effort increased over 1985 and both means. CPUE was down from 1985 and both means. In 1986 there was a continuation of a declining trend in catches of grilse for Garnish River (Appendix 12), Long Harbour River (Appendix 13), and Bay du Nord River (Appendix 14).

Predictions for 1987

Based on the recreational catch in 1982 (second highest on record up to that year) and fishway counts, and also a modal smolt age of 3+ years, it is expected that the catch of small salmon in insular Newfoundland in 1987 will be comparable to 1986. Given the level of catch of small salmon in the commercial fishery in Labrador in 1981 and a modal smolt age of 4+ years, the 1987 catch will probably be similar to 1986.

A regression of commercial catch of large salmon (year i+1) on small salmon (year i) for insular Newfoundland (O'Connell et al. 1986) gave a predicted catch of 337 t of large salmon for 1986; the actual catch was 235 t. A $\log_e$-$\log_e$ regression for Labrador gave a predicted catch of 233 t; the actual catch was 253 t. Because of the poor estimate provided by the insular Newfoundland regression and the possibility that there was a change in the proportionate exploitation of small and large salmon under current management regimes, relative to years prior to 1984, the relationship is not considered appropriate for predictive purposes. Labrador on the other hand is relatively unaffected by the Management Plan. The following relationship was therefore

used to predict the catch of large salmon in 1987 for Labrador: $\log_e y = 2.9496 + 0.6049 \log_e x$; $r^2 = 0.38$; $P = 0.03$. The predicted catch (and 95% confidence limits) is 342 (137-856 t).

Discussion

The 1986 commercial fishery in Labrador showed a marked improvement over 1985 for both small and large salmon. Levels of catch of small and large salmon in insular Newfoundland in 1986 were quite similar to 1985. Commercial catches of small salmon in both insular Newfoundland and Labrador in 1986 were comparable to historic levels. Landings of large salmon in insular Newfoundland and Labrador in 1986 however remained well below historic levels. There are indications that low market prices for salmon and an exceptionally good cod fishery in southern Labrador might have resulted in a reduction in effort expended in the salmon fishery.

In 1985, there was a dramatic change in the distribution of catches in the commercial fishery compared to previous years for insular Newfoundland. Approximately 47% of landings occurred in Management Zones 3, 4, and 5 and 29% in Zones 10 and 11. This was in contrast to the catch distribution during the period 1974-84, when 61% of the landings occurred in Zones 3, 4, and 5 and 15% in Zones 10 and 11. O'Connell et al. (1986) suggested that the more southerly distribution of landings was caused by environmental conditions at sea during the spring of 1985. It was hypothesized that heavy ice conditions and low water temperatures in May and June along the Newfoundland coast caused a delay in the inshore migration of Atlantic salmon and also forced both northern and southern Canadian stocks farther south. Salmon from stocks with origin along the northeast coast of Newfoundland and Labrador were susceptible to fisheries farther south along the east coast of Newfoundland. Southern stocks from the south and west coasts of Newfoundland and stocks from Gulf of St. Lawrence, probably did not encounter the east coast fisheries to the same extent as in previous years, but were more available to fisheries in Management Zones 10 and 11. Changes in the distributional pattern of the 4°C surface isotherm in the area of Port aux Basques to Burgeo (Zone 12) in late May and early June created a very atypical condition where salmon appeared to be concentrated across Zones 10 and 11. In 1986, 66% of insular Newfoundland catches occurred in Zones 3, 4, and 5 while 19% occurred in Zones 10 and 11. This was more in line with the pattern described above for the 1974-84 period. In contrast to 1985, 1986 was a light ice year.

In spite of regulations aimed at reducing catches in the recreational fishery in 1986, particularly the season bag limit, there was no substantial decline from 1985. Indeed catches were comparable to historic levels.

Catch levels in the commercial and recreational fisheries and fishway counts suggest that the overall abundance of both small and large salmon in insular Newfoundland in 1986 was somewhat similar to 1985. Catches in Labrador suggest that the abundance of small and large salmon in 1986 was higher than in 1985.

References

Ash, E.G.M. 1984. Atlantic salmon commercial catch statistics, Newfoundland and Labrador, 1982. Can. Data Rep. Fish. Aquat. Sci. 478: iv + 115 p.

Ash, E.G.M., and M. F. O'Connell. 1986. Atlantic salmon fishery in Newfoundland and Labrador, commercial and recreational, 1983. Can. Data Rep. Fish. Aquat. Sci. 608: v + 304 p.

Ash, E.G.M., and R. J. Tucker. 1984. Angled catch and effort data for Atlantic salmon in Newfoundland and Labrador, and for other fishes in Labrador, 1982. Can. Data Rep. Fish. Aquat. Sci. 465: xv + 96 p.

Cochran, W. G. 1977. Sampling techniques. John Wiley & Sons, Inc. 428 p.

May, A. W., and W. H. Lear. 1971. Digest of Canadian Atlantic salmon catch statistics. Fish. Res. Board Can. Tech. Rep. 270: 106 p.

Moores, R. B., and E.G.M. Ash. 1984. Angled catch and effort data for Atlantic salmon in Newfoundland and Labrador, and for other fishes in Labrador, 1981. Can. Data Rep. Fish. Aquat. Sci. 451: xv + 88 p.

Moores, R. B., and E. G. Dawe. 1980. Atlantic salmon commercial catch data, Newfoundland and Labrador, 1979. Can. Data Rep. Fish. Aquat. Sci. 221: iv + 95 p.

Moores, R. B., R. W. Penney, and R. J. Tucker. 1978. Atlantic salmon angled catch and effort data, Newfoundland and Labrador, 1953-77. Fish. Mar. Serv. Data Rep. 84: 274 p.

Moores, R. B., and R. J. Tucker. 1979. Atlantic salmon angled catch and effort data, Newfoundland and Labrador, 1978. Fish. Mar. Serv. Data Rep. 147: 106 p.

1980. Atlantic salmon angled catch and effort data, Newfoundland and Labrador, 1979. Can. Data Rep. Fish. Aquat. Sci. 212: xiv + 86 p.

Moores, R. B., A. W. Veitch, and E.G.M. Ash. 1984. Atlantic salmon commercial catch statistics, Newfoundland and Labrador, 1980 and 1981. Can. Data Rep. Fish. Aquat. Sci. 466: iv + 213 p.

O'Connell, M. F., J. B. Dempson, D. G. Reddin, and E.G.M. Ash. 1986. Status of Atlantic salmon (Salmo salar L.) stocks of the Newfoundland Region, 1985. CAFSAC Res. Doc. 86/23. 60 p.

Pippy, J. 1982. [Chairman]. Report of the Working Group on the Interception of Mainland Salmon in Newfoundland. Can. MS Rep. Fish. Aquat. Sci. 1654: x + 196 p.

Reddin, D. G., and F. A. Day. 1980. 1969-72 Newfoundland and Labrador Atlantic salmon (Salmo salar) commercial catch data. Can. Data Rep. Fish. Aquat. Sci. 220: iv + 55 p.

Reddin, D. G., and P. B. Short. 1981. The 1976 Newfoundland and Labrador Atlantic salmon commercial landings. Can. Tech. Rep. Fish. Aquat. Sci. 1007: iv + 55 p.

Reddin, D. G., and D. E. Waldron. 1976. 1975 Newfoundland and Labrador Atlantic salmon commercial catch data. Fish. Mar. Serv. Tech. Rep. 684: 183 p.

Short, P. B., and D. G. Reddin. 198[illegible]. Newfoundland and Labrador Atlantic salmon commercial catch data - 1977. Can. Data Rep. Fish. Aquat. Sci. 282: iv + 103 p.

1981b. Newfoundland and Labrador Atlantic salmon commercial catch data - 1978. Can. Data Rep. Fish. Aquat. Sci. 282: iv + 114 p.

Waldron, D. E. 1974. 1973 Newfoundland and Labrador Atlantic salmon commercial catch data. Data Record Series No. NEW/D-74-1, Res. Dev. Branch, Nfld. Region. 127 p.

Table 1. Number of licensed Atlantic salmon fishermen and amount of gear for 1983-86 by Management Zone for the Newfoundland Region.

Management Zone	1983		1984		1985		1986	
	Fishermen	Gear units	Fishermen	Gear units	Fishermen	Gear units	Fisherman	Gear units
Nfld. Reg. (Labrador)								
1	273	1,080	248	992	234	936	212	848
2	417	1,879	378	1,471	351	1,402	356	1,424
Nfld. Reg. (Insular)								
3	578	2,315	512	1,892	439	1,750	438	1,752
4	1,033	3,729	892	3,124	695	2,768	696	2,782
5	479	1,661	395	1,341	283	1,122	281	1,124
6	383	1,499	317	1,160	259	1,036	257	1,028
7	356	1,402	277	1,012	229	914	231	922
8	239	1,089	200	774	186	744	183	732
9	68	235	58	201	45	178	45	180
10	250	934	201	718	162	644	164	656
11	263	1,069	213	786	182	722	185	740
Total Nfld. Region	4,339	16,892	3,691	13,471	3,065	12,216	3,048	12,188

Table 2. Atlantic salmon commercial catch data and recreational catch and effort data for the whole Newfoundland Region and for the Insular Newfoundland and Labrador portions of the Region, 1974-86. The 1974-85 and 1981-85 means are included.

	Commercial catch (tonnes)[1]									Recreational catch (no.) and effort (rod days)														
	Small			Large			Total			Grilse ($x10^2$)			Large salmon			Total ($x10^2$)			Effort ($x10^2$)			CPUE		
Year	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg	Ins NF	Lab	NF Reg
1974	432	94	526	586	524	1110	1017	617	1634	155	18	173	171	512	683	157	23	180	679	28	707	0.23	0.82	0.25
1975	466	176	642	641	429	1070	1106	605	1711	161	29	190	245	173	418	163	31	194	602	20	622	0.27	1.52	0.31
1976	372	137	509	548	523	1071	922	661	1583	164	32	196	320	520	840	167	38	205	649	33	681	0.26	1.15	0.30
1977	352	117	469	651	481	1132	1004	599	1603	214	29	243	1186	693	1879	226	36	262	691	33	724	0.33	1.09	0.36
1978	171	56	227	380	375	755	550	430	980	197	21	218	616	584	1200	203	27	230	636	38	674	0.32	0.70	0.34
1979	334	81	415	195	213	408	526	294	820	179	32	211	379	490	869	182	37	219	502	32	534	0.36	1.16	0.41
1980	498	209	707	538	579	1117	1034	788	1822	234	29	262	720	552	1272	241	34	275	666	25	691	0.36	1.38	0.40
1981	379	224	603	556	538	1094	936	763	1699	304	35	339	552	300	852	310	38	348	779	19	797	0.40	2.06	0.44
1982	362	144	506	270	362	632	629	506	1135	260	28	288	531	541	1072	265	34	299	852	31	883	0.31	1.08	0.34
1983	263	91	354	269	239	508	534	330	864	216	24	240	695	298	993	223	27	250	822	31	853	0.27	0.85	0.29
1984	244	50	294	239	179	418	482	229	711	248	20	268	47	325	372	249	23	272	797	31	829	0.31	0.73	0.33
1985	348	75	423	242	136	378	590	211	801	265	20	285	-	194	194	265	22	287	828	27	855	0.32	0.82	0.34
1986	336	118	454	235	253	488	569	371	940	242	24	266	-	283	283	242	27	269	790	31	821	0.31	0.88	0.33
$\bar{x}$ ± 95% C.L.																								
1974-85																								
	352	121	473	426	382	808	778	503	1280	216	26	243	497	432	887	221	31	252	709	29	738	0.31	1.06	0.34
	±59	±37	±89	±112	±99	±204	±154	±128	±273	±30	±4	±31	±212	±106	±290	±30	±4	±31	±68	±4	±68	±0.02	±0.17	±0.02
1981-85																								
	319	117	436	315	291	606	634	408	1042	259	25	284	456	332	697	262	29	291	816	28	843	0.32	1.03	0.35
	±76	±86	±152	±168	±201	±360	±221	±286	±496	±39	±8	±45	±449	±158	±485	±39	±9	±45	±35	±7	±40	±0.03	±0.35	±0.04

[1] Figures for 1986 are preliminary.

Table 3. Atlantic salmon commercial catch data and recreational catch and effort data for 1986 by Management Zone for the Newfoundland Region. Catches in 1985, the 1974-85 mean and the 1981-85 mean (in parentheses) are included.

Management Zone	Commercial catch (tonnes)									Recreational catch (no.) and effort (rod days)													
	1986[1]			1985			$\bar{x}$ 1974-85 (1981-85)			1986					1985					$\bar{x}$ 1974-85 (1981-85)				
	Sm	Lg	Tot	Sm	Lg	Tot	Sm	Lg	Tot	Gr	Lg	Tot	Effort	CPUE	Gr	Lg	Tot	Effort	CPUE	Gr	Lg	Tot	Effort	CPUE
NF Reg. (Labrador)																								
1	22	61	83	21	51	72	24 (19)	83 (67)	107 (86)	369	125	494	568	0.87	642	135	777	946	0.82	620 (647)	276 (208)	896 (855)	715 (726)	1.25 (1.18)
2	96	192	288	54	85	139	97 (98)	299 (224)	396 (322)	2024	158	2182	2483	0.88	1367	59	1426	1756	0.81	2020 (1884)	156 (123)	2175 (2007)	2185 (2060)	1.00 (0.97)
NF Reg. (Insular)																								
3	79	70	149	73	50	123	117 (102)	117 (96)	235 (198)	772	-	772	1430	0.54	1310	-	1310	2355	0.56	1490 (1784)	-	1502 (1803)	2600 (3140)	0.58 (0.57)
4	98	70	168	68	43	111	80 (81)	73 (70)	152 (150)	9293	-	9293	31650	0.29	12190	-	12190	34329	0.36	8930 (10911)	-	9246 (11097)	26996 (31164)	0.34 (0.36)
5	35	22	57	41	31	72	30 (32)	49 (37)	79 (69)	4053	-	4053	11510	0.35	3484	-	3484	11613	0.30	2625 (2893)	-	2665 (2945)	9051 (10602)	0.29 (0.28)
6	26	16	42	46	19	65	30 (24)	39 (25)	69 (49)	445	-	445	2596	0.17	429	-	429	2256	0.19	320 (386)	-	329 (398)	2640 (3119)	0.12 (0.13)
7	7	11	17	8	16	25	15 (9)	37 (22)	52 (32)	102	-	102	700	0.15	112	-	112	1635	0.07	103 (125)	-	107 (135)	1568 (1558)	0.07 (0.09)
8	14	7	20	15	16	31	17 (12)	39 (19)	56 (31)	138	-	138	696	0.20	103	-	103	611	0.17	79 (77)	-	80 (80)	454 (461)	0.18 (0.17)
9	6	2	8	9	2	11	10 (11)	3 (2)	12 (13)	2298	-	2298	8807	0.26	1750	-	1750	9385	0.19	1788 (2001)	-	1812 (2033)	8344 (8762)	0.22 (0.23)
10	30	11	41	40	11	51	23 (21)	18 (12)	41 (33)	1535	-	1535	6387	0.24	1326	-	1326	6887	0.19	1161 (1299)	-	1180 (1323)	8236 (8212)	0.14 (0.16)
11	41	26	67	48	54	101	30 (27)	52 (33)	82 (60)	5546	-	5546	15233	0.36	5823	-	5823	13712	0.42	5145 (6402)	-	5174 (6429)	10963 (14537)	0.47 (0.44)

[1] Preliminary figures.

Table 4. Counts of grilse from fishways and counting fences in insular Newfoundland 1955-86; also shown are means ($\bar{x}$), standard deviations (SD), and coefficients of variation (CV).

	Fishways									Counting fences			
Year	1	2A	2B	3	4	5	6	7	8	9	10	11	12
1955							53						
1956					324[a]	558	32						
1957				642	28[a]	141	21						
1958	843			1072	332[a]	677	10						
1959	438	886[a]	-	591	295[a]	394	120						
1960	494	1013	94	291		490	86						
1961	153	839	319	41		318	74						
1962			1037			496	284						
1963	267	1202	491			551	372						
1964	1199		1752			419	246						
1965	394	1228	587			474	334						
1966	292	829[a]	942			368	134						
1967	116	1372	822			613	373						
1968	682		1334			715	409	57[a]					
1969	222	979	892			658	463						
1970	392		1023			754	563						
1971	364	961	902	714		580	316	159					
1972	112	794	495[a]	541	838	609	330	236					
1973	714	205		970	1079[a]	455	340	399[a]					
1974	616	2583		862	770[a]		161	224					
1975	788	9010	6012		1119[a]		782	186[a]					
1976	353	4106	3037				346	294					
1977	1307	6058	4294				371						
1978	1125	3757	2633	755	1412	810	436	390					
1979	2959	6693	3923	404	1283[a]	569	455	454					
1980	1760		4550	997	1703	842	422	433					
1981	2696[a]	9015[a]	4286	2459	2415	1115	619	334[a]					
1982	2149	7654[a]	2836	1425	1281	963	625	86[a]				133	198[a]
1983	2205[a]		3031[a]	978	1195	1210	853	233		2330		272	925[a]
1984	1346[a]	17389	6398[a]	1081	1379	1232	911	419		2430	89	359	1220
1985	2074	16648	5987	1663	904	1557	960	384		1377[a]	124	170	437[a]
1986	2091[b]	9674	3065	1064	1025	1051	726	725	211	2500	158	296	893
1976-85													
$\bar{x}$	1797.4	8915.0	4097.5	1220.3	1446.5	1037.3	599.8	336.3					
SD	782.2	5292.0	1298.3	630.5	450.6	306.7	232.8	117.4					
CV	43.52	59.36	31.69	51.67	31.15	29.57	38.81	34.91					
1981-85													
$\bar{x}$	2094.0	12676.5	4507.6	1521.2	1434.8	1215.4	793.6	291.2					
SD	484.2	5053.5	1642.1	591.1	575.9	218.4	161.2	134.4					
CV	23.12	39.87	36.43	38.86	40.14	17.97	20.31	46.15					

1 Indian Brook
2 Exploits River
  (a) Bishop's Falls
  (b) Gt. Rattling Brook
3 Gander River (Salmon Brook)
4 Middle Brook
5 L. Terra Nova River
6 U. Terra Nova River
7 Northeast River (Placentia)
8 Grand Bank Brook
9 Biscay Bay River
10 Northeast Brook (Trepassey)
11 Colinet River
12 Little Salmonier River

[a]Partial counts.

[b]Total to August 30 (not a final figure)

Table 5. Counts of large salmon at fishways and counting fences in insular Newfoundland 1955-86; also shown are means ($\bar{x}$), standard deviations (SD), and coefficients of variation (CV).

	Fishways									Counting fences			
Year	1	2A	2B	3	4	5	6	7	8	9	10	11	12
1955							24						
1956					56[a]	36	44						
1957				323	2[a]	41	1						
1958	80			502	231[a]	195	0						
1959	18	119[a]		290	13[a]	67	20						
1960	25	157	9	183		217	0						
1961	1	118	53	15		99	1						
1962			31			275	4						
1963	22	65	37			320	35						
1964	45		116			297	18						
1965	0	203	190			254	51						
1966	3	506[a]	470			220	2						
1967	0	710	382			359	42						
1968	0		687			374	28	11[a]					
1969	3	498	290			393	136						
1970	0		199			470	170						
1971	0	300	261	494		277	121	21					
1972	0	113	234[a]	53	10	348	202	34					
1973	3	89		135	9[a]	299	222	64[a]					
1974	8	411		8	77[a]		122	9					
1975	11	1441	544		9[a]		48	36[a]					
1976	3	493	121				37	56					
1977	23	584	221				262						
1978	13	302	78	52	16	20	88	32					
1979	113	276	119	6	54[a]	170	30	37					
1980	25		418	15	91	40	15	34					
1981	151[a]	1695[a]	514	33	38	90	28	62[a]					
1982	67	133[a]	123	18	20	19	8	36[a]				116	239[a]
1983	48[a]		223[a]	12	75	57	76	22		88		43	197[a]
1984	19[a]	355	111[a]	38	57	107	98	44		83	33	97	295
1985	27	181	38	26	27	112	60	0		21[a]	41	42	87[a]
1986	12[b]	353	174	12	15	140	58	39	4	101	30	31	133
1976-85													
$\bar{x}$	48.9	502.4	196.6	25.0	47.3	76.9	70.2	35.9					
SD	48.2	504.5	154.5	15.3	26.8	52.5	74.1	18.2					
CV	98.57	100.42	78.59	61.20	56.66	68.27	105.56	50.70					
1981-85													
$\bar{x}$	62.4	591.0	201.8	25.4	43.4	77.0	54.0	32.8					
SD	52.9	742.2	186.5	10.6	22.5	38.9	36.2	23.3					
CV	84.78	125.58	92.42	41.73	51.84	50.52	67.04	71.04					

1 Indian Brook
2 Exploits River
(a) Bishop's Falls
(b) Gt. Rattling Brook
3 Gander River (Salmon Brook)
4 Middle Brook
5 L. Terra Nova River
6 U. Terra Nova River
7 Northeast River (Placentia)
8 Grand Bank Brook
9 Biscay Bay River
10 Northeast Brook (Trepassey)
11 Colinet River
12 Little Salmonier River

[a]Partial counts.
[b]Total to August 30 (not a final figure)

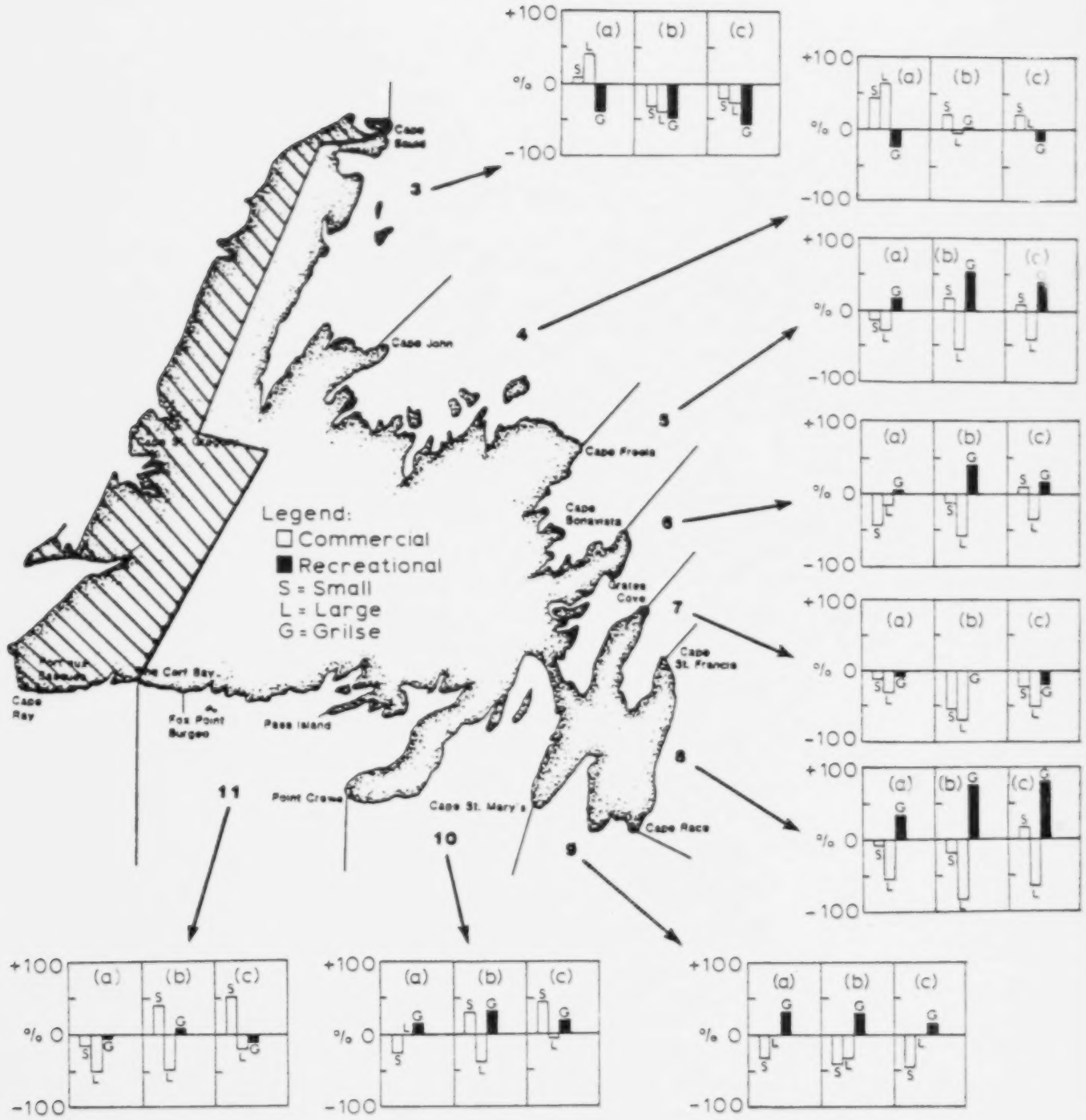

Fig. 2. The 1986 commercial (by weight) and recreational (no.) catches of Atlantic salmon by Management Zone for the insular Newfoundland portion of the Newfoundland Region expressed as percentages in relation to 1985 (panel a of each graph), the 1974-85 mean (panel b), and the 1981-85 mean (panel c). Zero percent denotes 1985 and the two means on each graph. Cross-hatched portion denotes area belonging to the Gulf Region.

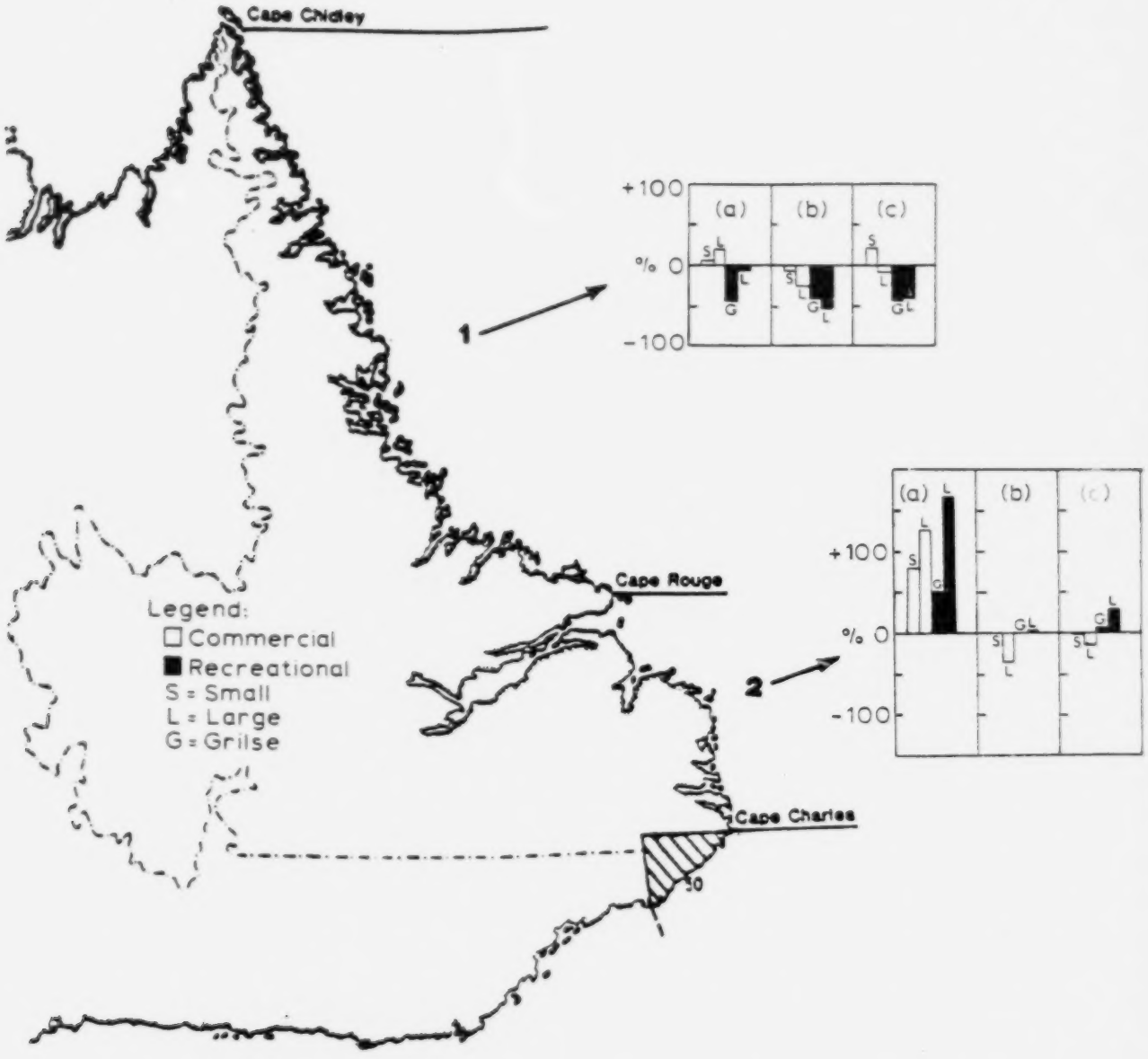

Fig. 1. The 1986 commercial (by weight) and recreational (no.) catches of Atlantic salmon by Management Zone for the Labrador portion of the Newfoundland Region expressed as percentages in relation to 1985 (panel a of each graph), the 1974-85 mean (panel b), and the 1981-85 mean (panel c). Zero percent denotes 1985 and the two means on each graph. Cross-hatched portion denotes area belonging to the Gulf Region.

Appendix 1a. Summary of commercial Atlantic salmon catch and effort data for the entire Newfoundland Region, 1974-86. Weight in metric tonnes.

NFLD. & LABRADOR (NFLD REGION)

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	526	278365	1110	230366	1634	508731	32.19	54.72	17228
1975	642	338395	1070	238121	1711	576516	37.52	58.70	21733
1976	509	264809	1071	240523	1583	505332	32.15	52.40	20500
1977	469	237608	1132	237173	1603	474781	29.26	50.05	18793
1978	227	116489	755	160081	980	276570	23.16	42.12	19326
1979	415	206668	408	91805	820	298473	50.61	69.24	19213
1980	707	335112	1117	229547	1822	564659	38.80	59.35	19092
1981	603	309090	1094	221341	1699	530431	35.49	58.27	18244
1982	506	261102	632	139315	1135	400417	44.58	65.21	16145
1983	354	186314	508	113457	864	299771	40.97	62.15	16892
1984	294	154506	418	91560	711	246066	41.35	62.79	13471
1985	423	231115	378	87578	801	318693	52.81	72.52	12216
1986[1]	454	229686	488	100460	940	330146	48.30	69.57	12130
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	472.92	243297.75	807.75	173405.58	1280.25	416703.33	*36.94	*58.39	17737.75
S.D.:	140.78	69114.87	320.80	65442.93	429.10	122970.58	* 1.76	* 1.81	2758.49
95% LCL:	383.47	199383.96	603.92	131824.85	1007.61	338571.03	*33.49	*54.83	15985.08
95% UCL:	562.36	287211.54	1011.6	214986.31	1552.89	494835.64	*40.39	*61.94	19490.42
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	436.00	228425.40	606.00	130650.20	1042.00	359075.60	*41.84	*63.61	15393.60
S.D.:	122.32	60867.11	289.72	54723.77	399.88	110669.26	* 2.47	* 2.36	2486.37
95% LCL:	284.15	152861.02	246.32	62712.56	545.56	221683.59	*36.99	*58.99	12306.86
95% UCL:	587.85	303989.78	965.68	198587.84	1538.44	496467.61	*46.69	*68.24	18480.34

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1b. Summary of commercial Atlantic salmon catch and effort data for the insular portion of Newfoundland Region, 1974-86. Weight in metric tonnes.

INSULAR NEWFOUNDLAND (NFLD REGION)

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	432	231372	586	123464	1017	354836	42.48	65.21	15040
1975	466	245898	641	138352	1106	384250	42.13	63.99	19013
1976	372	199752	548	124172	922	323924	40.35	61.67	17533
1977	352	179273	651	138857	1004	318130	35.06	56.35	15928
1978	171	86859	380	80323	550	167182	31.09	51.95	16158
1979	334	168148	195	43441	526	211589	63.50	79.47	15990
1980	498	240126	538	113730	1034	353856	48.16	67.86	16116
1981	379	201068	556	116613	936	317681	40.49	63.29	15315
1982	362	189032	270	62038	629	251070	57.55	75.29	13271
1983	263	140165	269	60734	534	200899	49.25	69.77	13933
1984	244	130685	239	53617	482	184302	50.62	70.91	11008
1985	348	191216	242	57537	590	248753	58.98	76.87	9878
1986[1]	336	170676	235	50886	569	221562	59.05	77.03	9902
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	351.75	183632.83	426.25	92739.83	777.50	276372.67	*45.24	*66.44	14931.92
S.D.:	92.75	47015.29	175.83	36270.57	242.56	74592.68	* 1.68	* 1.44	2581.26
95% LCL:	292.82	153760.54	314.53	69694.46	623.38	228978.42	*41.94	*63.61	13291.85
95% UCL:	410.68	213505.13	537.97	115785.21	931.62	323766.91	*48.54	*69.28	16571.98
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	319.20	170433.20	315.20	70107.80	634.20	240541.00	*50.33	*70.85	12681.00
S.D.:	61.34	32451.56	135.39	26199.69	177.67	52113.31	* 2.09	* 1.70	2208.47
95% LCL:	243.05	130145.73	147.11	37581.80	413.63	175844.15	*46.24	*67.52	9939.27
95% UCL:	395.35	210720.67	483.29	102633.80	854.77	305237.85	*54.43	*74.19	15422.73

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1c. Summary of Atlantic salmon catch and effort data for the Labrador portion of Newfoundland Region, 1974-86. Weight in metric tonnes.

LABRADOR (NFLD REGION)

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	94	46993	524	106902	617	153895	15.24	30.54	2188
1975	176	92497	429	99769	605	192266	29.09	48.11	2720
1976	137	65057	523	116351	661	181408	20.73	35.86	2967
1977	117	58335	481	98316	599	156651	19.53	37.24	2865
1978	56	29630	375	79758	430	109388	13.02	27.09	3168
1979	81	38520	213	48364	294	86884	27.55	44.33	3223
1980	209	94986	579	115817	788	210803	26.52	45.06	2976
1981	224	108022	538	104728	763	212750	29.36	50.77	2929
1982	144	72070	362	77277	506	149347	28.46	48.26	2874
1983	91	46149	239	52723	330	98872	27.58	46.68	2959
1984	50	23821	179	37943	229	61764	21.83	38.57	2463
1985	75	39899	136	30041	211	69940	35.55	57.05	2338
1986[1]	118	59010	253	49574	371	108584	31.81	54.35	2228
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	121.17	59664.92	381.50	80665.75	502.75	140330.67	*24.10	*42.52	2805.83
S.D.:	57.83	27330.64	155.62	31155.70	201.29	53756.65	* 1.43	* 1.91	320.85
95% LCL:	84.42	42299.74	282.63	60870.23	374.86	106175.09	*21.29	*38.77	2601.97
95% UCL:	157.91	77030.09	480.37	100461.27	630.64	174486.25	*26.91	*46.27	3009.69
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	116.80	57992.20	290.80	60542.40	407.80	118534.60	*28.64	*48.92	2712.60
S.D.:	69.11	32925.91	162.27	30555.79	230.52	62842.86	* 1.89	* 2.50	289.92
95% LCL:	31.00	17115.84	89.35	22608.46	121.61	40517.39	*24.93	*44.02	2352.67
95% UCL:	202.60	98868.56	492.25	98476.34	693.99	196551.81	*32.35	*53.82	3072.53

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix Id. Summary of commercial Atlantic salmon catch and effort data for Management Zone 1, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 1

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	12	6211	35	7113	47	13324	25.53	46.62	288
1975	42	22105	76	17603	118	39708	35.59	55.67	556
1976	30	14124	139	30882	169	45006	17.75	31.38	549
1977	25	12363	98	20046	123	32409	20.33	38.15	612
1978	28	14530	124	26321	151	40851	18.54	35.57	1001
1979	16	7419	72	16444	88	23863	18.18	31.09	979
1980	41	18587	112	22337	153	40924	26.80	45.42	1018
1981	20	9616	123	24853	143	34469	13.99	27.90	981
1982	18	9174	66	14006	84	23180	21.43	39.58	1046
1983	20	9907	61	13239	81	23146	24.69	42.80	1080
1984	17	8043	34	7149	51	15192	33.33	52.94	992
1985	21	11054	51	11349	72	22403	29.17	49.34	936
1986[1]	22	11086	61	11883	83	22969	26.51	48.27	848
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	24.17	11927.75	82.58	17611.83	106.67	29539.58	*22.66	*40.38	836.50
S.D.:	9.53	4725.00	35.87	7538.03	41.66	10727.91	* 2.02	* 2.86	261.30
95% LCL:	18.11	8925.61	59.79	12822.37	80.19	22723.35	*18.69	*34.78	670.48
95% UCL:	30.22	14929.89	105.37	22401.30	133.14	36355.82	*26.62	*45.98	1002.52
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	19.20	9558.80	67.00	14119.20	86.20	23678.00	*22.27	*40.37	1007.00
S.D.:	1.64	1096.11	33.61	6562.39	34.27	6903.16	* 3.68	* 4.86	56.55
95% LCL:	17.16	8138.01	25.28	5972.23	43.65	15107.97	*15.06	*30.84	936.79
95% UCL:	21.24	10919.59	108.72	22266.17	128.75	32248.03	*29.49	*49.90	1077.21

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1e. Summary of commercial Atlantic salmon catch and effort data for Management Zone 2, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 2

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	82	40782	489	99789	570	140571	14.39	29.01	1900
1975	134	70392	353	82166	487	152558	27.52	46.14	2164
1976	107	50933	384	85469	492	136402	21.75	37.34	2418
1977	92	45972	383	78270	476	124242	19.33	37.00	2253
1978	28	15100	251	53437	279	68537	10.04	22.03	2167
1979	65	31101	141	31920	206	63021	31.55	49.35	2244
1980	168	76399	467	93480	635	169879	26.46	44.97	1958
1981	204	98406	415	79875	620	178281	32.90	55.20	1948
1982	126	62896	296	63271	422	126167	29.86	49.85	1828
1983	71	36242	178	39484	249	75726	28.51	47.86	1879
1984	33	15778	145	30794	178	46572	18.54	33.88	1471
1985	54	28845	85	18692	139	47537	38.85	60.68	1402
1986[1]	96	47924	192	37691	288	85615	33.33	55.98	1380
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	97.00	47737.17	298.92	63053.92	396.08	110791.08	*24.49	*43.09	1969.33
S.D.:	53.48	25308.92	136.98	27441.63	177.64	47837.77	* 1.73	* 2.29	307.17
95% LCL:	63.02	31656.54	211.88	45618.22	283.22	80396.21	*21.10	*38.60	1774.16
95% UCL:	130.98	63817.79	385.95	80489.61	508.95	141185.96	*27.88	*47.57	2164.50
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	97.60	48433.40	223.80	46423.20	321.60	94856.60	*30.35	*51.06	1705.60
S.D.:	68.76	32806.78	131.67	24820.93	198.97	56737.33	* 1.58	* 2.20	250.51
95% LCL:	12.24	7704.94	60.34	15608.88	74.58	24419.19	*27.26	*46.74	1394.60
95% UCL:	182.96	89161.86	387.26	77237.52	568.62	165294.01	*33.44	*55.37	2016.60

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1f. Summary of commercial Atlantic salmon catch and effort data for Management Zone 3, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 3

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	66	33129	83	18492	149	51621	44.30	64.18	2371
1975	119	59495	121	26850	240	86345	49.58	68.90	2704
1976	169	88837	174	40514	343	129351	49.27	68.68	2528
1977	122	61215	240	51168	363	112383	33.61	54.47	2364
1978	49	24384	82	17463	131	41847	37.40	58.27	2406
1979	204	101970	65	15509	269	117479	75.84	86.80	2418
1980	167	79798	165	34637	332	114435	50.30	69.73	2378
1981	174	93658	175	36148	349	129806	49.86	72.15	2309
1982	111	58977	79	17262	190	76239	58.42	77.36	2083
1983	100	55163	94	20579	194	75742	51.55	72.83	2315
1984	53	28189	81	17630	133	45819	39.85	61.52	1892
1985	73	40484	50	11394	123	51878	59.35	78.04	1750
1986[1]	79	41136	70	14546	149	55682	53.02	73.88	1762
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	117.25	60441.58	117.42	25637.17	234.67	86078.75	*49.96	*70.22	2293.17
S.D.:	51.90	26155.26	57.92	12244.67	93.66	33581.09	* 3.58	* 2.87	264.81
95% LCL:	84.27	43823.21	80.62	17857.22	175.16	64742.20	*42.95	*64.59	2124.91
95% UCL:	150.23	77059.95	154.22	33417.11	294.18	107415.30	*56.98	*75.84	2461.42
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	102.20	55294.20	95.80	20602.60	197.80	75896.80	*51.67	*72.85	2069.80
S.D.:	46.13	24695.12	47.10	9306.64	90.46	33120.69	* 2.63	* 2.02	250.70
95% LCL:	44.93	24636.08	37.32	9048.73	85.50	34778.63	*46.51	*68.90	1758.57
95% UCL:	159.47	85952.32	154.28	32156.47	310.10	117014.97	*56.82	*76.81	2381.03

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1g. Summary of commercial Atlantic salmon catch and effort data for Management Zone 4, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 4

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	54	26821	52	11456	105	38277	51.43	70.07	3151
1975	142	71225	103	22950	246	94175	57.72	75.63	3962
1976	57	30249	60	14303	117	44552	48.72	67.90	3547
1977	85	44691	96	20371	181	65062	46.96	68.69	3327
1978	36	17821	68	14564	104	32385	34.62	55.03	3371
1979	45	21524	33	7403	78	28927	57.69	74.41	3349
1980	135	64024	110	24029	245	88053	55.10	72.71	3485
1981	87	44106	128	26632	215	70738	40.47	62.35	3390
1982	98	50764	69	16022	166	66786	59.04	76.01	3002
1983	74	37560	56	12789	130	50349	56.92	74.60	3729
1984	76	40292	52	11257	128	51549	59.38	78.16	3124
1985	68	37957	43	10019	111	47976	61.26	79.12	2768
1986[1]	98	49287	70	14757	168	64044	58.33	76.96	2778
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	79.75	40586.17	72.50	15982.92	152.17	56569.08	*52.41	*71.75	3350.42
S.D.:	32.79	15997.19	29.70	6127.33	57.56	20776.76	* 2.35	* 1.75	320.27
95% LCL:	58.92	30421.97	53.63	12089.77	115.59	43368.07	*47.81	*68.32	3146.93
95% UCL:	100.58	50750.36	91.37	19876.07	188.74	69770.10	*57.01	*75.17	3553.91
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	80.60	42135.80	69.60	15343.80	150.00	57479.60	*53.73	*73.31	3202.60
S.D.:	11.91	5480.13	33.96	6698.24	41.49	10472.94	* 4.79	* 3.43	369.97
95% LCL:	65.82	35332.41	27.44	7028.17	98.49	44477.81	*44.35	*66.58	2743.30
95% UCL:	95.38	48939.19	111.76	23659.43	201.51	70481.39	*63.11	*80.03	3661.90

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1h. Summary of commercial Atlantic salmon catch and effort data for Management Zone 5, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 5

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	31	15344	35	7551	65	22895	47.69	67.02	2014
1975	48	28024	112	24380	160	52404	30.00	53.48	2565
1976	13	6284	44	10811	57	17095	22.81	36.76	2354
1977	38	18031	90	19150	128	37181	29.69	48.50	2163
1978	22	11578	59	12785	81	24363	27.16	47.52	2172
1979	11	5342	18	3849	28	9191	39.29	58.12	2169
1980	40	18246	47	10609	87	28855	45.98	63.23	2320
1981	28	14252	65	14366	93	28618	30.11	49.80	1944
1982	37	18607	23	6089	60	24696	61.67	75.34	1551
1983	27	13723	31	7288	58	21011	46.55	65.31	1661
1984	26	13833	34	8000	60	21833	43.33	63.36	1341
1985	41	21323	31	7518	72	28841	56.94	73.93	1122
1986[1]	35	17629	22	5324	57	22953	61.40	76.80	1120
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	30.17	15382.25	49.08	11033.00	79.08	26415.25	*38.15	*58.23	1948.00
S.D.:	11.29	6217.36	28.19	5894.47	35.32	10708.15	* 3.48	* 3.18	439.44
95% LCL:	22.99	11431.90	31.17	7287.81	56.64	19611.57	*31.33	*51.99	1668.79
95% UCL:	37.34	19332.60	66.99	14778.19	101.52	33218.93	*44.96	*64.47	2227.21
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	31.80	16347.60	36.80	8652.20	68.60	24999.80	*46.36	*65.39	1523.80
S.D.:	6.76	3444.66	16.28	3270.72	14.72	3670.07	* 6.30	* 5.08	312.65
95% LCL:	23.41	12071.17	16.58	4591.72	50.32	20443.54	*34.00	*55.44	1135.66
95% UCL:	40.19	20624.03	57.02	12712.68	86.88	29556.06	*58.71	*75.34	1911.94

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 11. Summary of commercial Atlantic salmon catch and effort data for Management Zone 6, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 6

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	74	39102	94	19185	168	58287	44.05	67.09	1589
1975	40	21994	67	14171	106	36165	37.74	60.82	2074
1976	21	10204	33	6648	54	16852	38.89	60.55	2074
1977	34	15236	57	11849	90	27085	37.78	56.25	1876
1978	21	10193	55	10689	76	20882	27.63	48.81	1901
1979	20	9661	9	1757	29	11418	68.97	84.61	1853
1980	29	14568	35	6919	63	21487	46.03	67.80	1834
1981	23	12843	50	10356	73	23199	31.51	55.36	1709
1982	23	12006	20	4278	43	16284	53.49	73.73	1536
1983	11	6432	18	4086	30	10518	36.67	61.15	1499
1984	19	10863	16	3678	35	14541	54.29	74.71	1160
1985	46	26911	19	4462	65	31373	70.77	85.78	1036
1986[1]	26	13516	16	3413	42	16929	61.90	79.84	1028
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	30.08	15834.42	39.42	8173.17	69.33	24007.58	*43.39	*65.96	1678.42
S.D.:	16.92	9255.65	25.57	5158.96	39.20	13294.96	* 3.32	* 3.19	330.17
95% LCL:	19.33	9953.62	23.17	4895.30	44.43	15560.31	*36.88	*59.71	1468.64
95% UCL:	40.84	21715.22	55.66	11451.03	94.24	32454.86	*49.90	*72.20	1888.19
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	24.40	13811.00	24.60	5372.00	49.20	19183.00	*49.59	*72.00	1388.00
S.D.:	13.03	7728.93	14.28	2801.28	18.87	8212.17	* 8.91	* 6.91	279.80
95% LCL:	8.22	4215.81	6.88	1894.31	25.77	8987.88	*32.13	*58.46	1040.64
95% UCL:	40.58	23406.19	42.32	8849.69	72.63	29378.12	*67.06	*85.54	1735.36

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1j. Summary of commercial Atlantic salmon catch and effort data for Management Zone 7, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 7

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	43	21478	83	17277	126	38755	34.13	55.42	1861
1975	19	9819	56	12153	75	21972	25.33	44.69	2567
1976	15	7983	33	7042	48	15025	31.25	53.13	2276
1977	23	11318	56	11875	78	23193	29.49	48.80	1973
1978	10	4771	40	8572	50	13343	20.00	35.76	2066
1979	5	2347	7	1418	11	3765	45.45	62.34	1971
1980	22	10012	52	10747	74	20759	29.73	48.23	2024
1981	18	9363	55	11168	73	20531	24.66	45.60	1954
1982	6	3091	11	2425	17	5516	35.29	56.04	1548
1983	7	3741	16	3478	23	7219	30.43	51.82	1402
1984	7	4256	13	2890	20	7146	35.00	59.56	1012
1985	8	4685	16	3582	25	8269	32.00	56.67	914
1986[1]	7	3201	11	2324	17	5525	41.18	57.94	910
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	15.25	7738.67	36.50	7718.92	51.67	15457.58	*29.52	*50.06	1797.33
S.D.:	10.89	5314.54	24.20	5015.32	34.54	10125.39	* 1.55	* 1.93	490.84
95% LCL:	8.33	4361.94	21.12	4532.31	29.72	9024.17	*26.47	*46.28	1485.47
95% UCL:	22.17	11115.39	51.88	10905.52	73.61	21891.00	*32.56	*53.84	2109.20
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	9.20	5027.20	22.20	4708.60	31.60	9735.80	*29.11	*51.64	1366.00
S.D.:	4.97	2495.71	18.46	3641.07	23.34	6114.36	* 2.62	* 3.32	421.24
95% LCL:	3.03	1928.87	-0.72	188.34	2.62	2145.03	*23.98	*45.13	843.04
95% UCL:	15.37	8125.53	45.12	9228.86	60.58	17326.57	*34.24	*58.14	1888.96

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1k. Summary of commercial Atlantic salmon catch and effort data for Management Zone 8, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 8

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	50	27847	84	18210	134	46057	37.31	60.46	1608
1975	28	14513	83	17669	111	32182	25.23	45.10	1875
1976	17	9128	50	10628	67	19756	25.37	46.20	1823
1977	15	7915	55	11754	70	19669	21.43	40.24	1582
1978	3	1487	28	5901	31	7388	9.68	20.13	1588
1979	5	2719	9	1881	14	4600	35.71	59.11	1617
1980	22	10362	67	13953	89	24315	24.72	42.62	1536
1981	13	6940	38	8644	51	15584	25.49	44.53	1524
1982	9	3457	9	2238	17	5695	52.94	60.70	1395
1983	9	4836	15	3441	24	8277	37.50	58.43	1089
1984	16	8471	16	4063	32	12534	50.00	67.58	774
1985	15	6604	16	4589	31	11193	48.39	59.00	744
1986[1]	14	6809	7	1648	20	8457	70.00	80.51	736
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	16.83	8689.92	39.17	8580.92	55.92	17270.83	*30.10	*50.32	1429.58
S.D.:	12.53	7017.65	28.09	5827.08	38.93	12239.53	* 2.83	* 3.39	369.98
95% LCL:	8.87	4231.08	21.32	4878.54	31.18	9494.16	*24.56	*43.68	1194.51
95% UCL:	24.80	13148.75	57.01	12283.29	80.65	25047.51	*35.64	*56.95	1664.66
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	12.40	6061.60	18.80	4595.00	31.00	10656.60	*40.00	*56.88	1105.20
S.D.:	3.29	1946.60	11.12	2427.17	12.71	3820.07	* 6.33	* 4.98	353.48
95% LCL:	8.32	3644.96	4.99	1581.75	15.22	5914.12	*27.60	*47.13	666.36
95% UCL:	16.48	8478.24	32.61	7608.25	46.78	15399.08	*52.40	*66.63	1544.04

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 11. Summary of commercial Atlantic salmon catch and effort data for Management Zone 9, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 9

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	8	4396	2	420	10	4816	80.00	91.28	407
1975	6	3395	3	628	9	4023	66.67	84.39	432
1976	5	2833	1	310	7	3143	71.43	90.14	347
1977	4	2454	1	266	6	2720	66.67	90.22	292
1978	7	3702	5	1013	11	4715	63.64	78.52	287
1979	21	11445	6	1239	26	12684	80.77	90.23	283
1980	12	6153	3	522	14	6675	85.71	92.18	268
1981	13	7024	4	834	17	7858	76.47	89.39	252
1982	13	6706	2	395	14	7101	92.86	94.44	222
1983	7	3891	2	447	9	4338	77.78	89.70	235
1984	11	5353	2	353	12	5706	91.67	93.81	201
1985	9	4849	2	483	11	5332	81.82	90.94	178
1986[1]	6	3136	2	351	8	3487	75.00	89.93	180
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	9.67	5183.42	2.75	575.83	12.17	5759.25	*79.45	*90.00	283.67
S.D.:	4.70	2461.55	1.54	301.77	5.34	2667.61	* 2.49	* 1.09	77.88
95% LCL:	6.68	3619.41	1.77	384.10	8.77	4064.32	*74.56	*87.86	234.18
95% UCL:	12.65	6747.42	3.73	767.57	15.56	7454.18	*84.34	*92.14	333.15
MEANS,STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	10.60	5564.60	2.40	502.40	12.60	6067.00	*84.13	*91.72	217.60
S.D.:	2.61	1302.92	0.89	191.87	3.05	1408.62	* 3.72	* 1.13	28.94
95% LCL:	7.36	3947.07	1.29	264.20	8.81	4318.25	*76.83	*89.50	181.68
95% UCL:	13.84	7182.13	3.51	740.60	16.39	7815.75	*91.42	*93.94	253.52

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1m. Summary of commercial Atlantic salmon catch and effort data for Management Zone 10, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 10

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	62	36686	36	7880	99	44566	62.63	82.32	1031
1975	15	9604	16	3304	31	12908	48.39	74.40	1330
1976	19	11266	20	4269	39	15535	48.72	72.52	1207
1977	19	11366	17	3677	36	15043	52.78	75.56	1063
1978	13	7416	22	4782	35	12198	37.14	60.80	1069
1979	5	3129	14	3106	20	6235	25.00	50.18	1051
1980	35	19347	28	5916	63	25263	55.56	76.58	1003
1981	8	4698	11	2226	19	6924	42.11	67.85	979
1982	30	16820	16	3526	46	20346	65.22	82.67	837
1983	10	5084	12	2767	22	7851	45.45	64.76	934
1984	19	10241	8	1837	28	12078	67.86	84.79	718
1985	40	22460	11	2261	51	24721	78.43	90.85	644
1986[1]	30	13600	11	2729	41	16329	73.17	83.29	648
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	22.92	13176.42	17.58	3795.92	40.75	16972.33	*56.24	*77.63	988.83
S.D.:	16.33	9487.06	7.98	1729.22	22.55	10745.33	* 3.75	* 2.64	190.74
95% LCL:	12.54	7148.59	12.51	2697.21	26.42	10145.03	*48.88	*72.47	867.65
95% UCL:	33.29	19204.25	22.66	4894.62	55.08	23799.64	*63.59	*82.80	1110.02
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	21.40	11860.60	11.60	2523.40	33.20	14384.00	*64.46	*82.46	822.40
S.D.:	13.56	7694.01	2.88	650.58	14.45	7842.96	* 6.29	* 4.21	141.35
95% LCL:	4.57	2308.76	8.02	1715.73	15.27	4647.24	*52.12	*74.20	646.92
95% UCL:	38.23	21412.44	15.18	3331.07	51.13	24120.76	*76.79	*90.71	997.88

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 1n. Summary of commercial Atlantic salmon catch and effort data for Management Zone 11, 1974-86. Weight in metric tonnes.

MANAGEMENT ZONE 11

YEAR	SMALL WEIGHT	SMALL NUMBER	LARGE WEIGHT	LARGE NUMBER	TOTAL WEIGHT	TOTAL NUMBER	PERCENT SMALL(W)	PERCENT SMALL(N)	POTENTIAL EFFORT
1974	44	26569	117	22993	161	49562	27.33	53.61	1008
1975	49	27829	80	16247	128	44076	38.28	63.14	1504
1976	56	32968	133	29647	190	62615	29.47	52.65	1377
1977	12	7047	39	8747	52	15794	23.08	44.62	1288
1978	10	5507	21	4554	31	10061	32.26	54.74	1298
1979	18	10011	34	7279	51	17290	35.29	57.90	1279
1980	36	17616	31	6398	67	24014	53.73	73.36	1268
1981	15	8184	30	6239	46	14423	32.61	56.74	1254
1982	35	18604	41	9803	76	28407	46.05	65.49	1097
1983	18	9735	25	5859	44	15594	40.91	62.43	1069
1984	17	9187	17	3909	34	13096	50.00	70.15	786
1985	48	25943	54	13229	101	39172	47.52	66.23	722
1986[1]	41	22362	26	5794	67	28156	61.19	79.42	740
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1974-1985):									
MEAN:	29.83	16600.00	51.83	11242.00	81.75	27842.00	*36.49	*59.62	1162.50
S.D.:	16.58	9612.31	38.17	8010.24	52.35	17077.35	* 3.45	* 3.37	234.04
95% LCL:	19.30	10492.59	27.58	6152.50	48.49	16991.50	*29.72	*53.01	1013.80
95% UCL:	40.37	22707.41	76.09	16331.50	115.01	38692.50	*43.27	*66.23	1311.20
MEANS, STANDARD DEVIATIONS AND CONFIDENCE INTERVALS (1981-1985):									
MEAN:	26.60	14330.60	33.40	7807.80	60.20	22138.40	*44.19	*64.73	985.60
S.D.:	14.40	7721.18	14.43	3702.36	27.68	11330.94	* 3.93	* 3.87	224.01
95% LCL:	8.73	4745.02	15.48	3211.45	25.84	8071.44	*36.49	*57.15	707.49
95% UCL:	44.47	23916.18	51.32	12404.15	94.56	36205.36	*51.89	*72.32	1263.71

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

[1]Preliminary figures.

Appendix 2a. Summary of recreational Atlantic salmon catch and effort data for Newfoundland Region (total), 1953-86.

NEWFOUNDLAND REGION (TOTAL)

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	27955	7519	707	8226	0.29	.
1954	17074	3421	709	4130	0.24	91
1955	11381	4829	402	5231	0.46	89
1956	33633	7680	609	8289	0.25	89
1957	17856	8949	739	9688	0.54	91
1958	16959	10027	896	10923	0.64	91
1959	18070	8795	750	9545	0.53	93
1960	17929	7290	673	7963	0.44	93
1961	14364	5189	428	5617	0.39	94
1962	22252	9965	769	10734	0.48	87
1963	27518	11494	609	12103	0.44	94
1964	36469	17351	967	18318	0.50	92
1965	35909	13439	784	14223	0.40	96
1966	36353	15339	746	16085	0.44	95
1967	39503	10476	373	10849	0.27	98
1968	41825	18375	681	19056	0.46	94
1969	41966	17793	409	18202	0.43	98
1970	41683	17932	421	18353	0.44	98
1971	41056	15940	457	16397	0.40	98
1972	36295	15180	486	15666	0.43	97
1973	51408	25347	741	26088	0.51	95
1974	70673	17279	683	17962	0.25	97
1975	62220	18962	418	19380	0.31	98
1976	68112	19630	840	20470	0.30	96
1977	72373	24307	1879	26186	0.36	91
1978	67434	21841	1200	23041	0.34	95
1979	53383	21066	869	21935	0.41	96
1980	69097	26235	1272	27507	0.40	94
1981	79729	33921	852	34773	0.44	97
1982	88321	28820	1072	29892	0.34	97
1983	85295	23988	993	24981	0.29	97
1984	82871	26779	372	27151	0.33	98
1985	85485	28536	194	28730	0.34	99
1986	82060	26575	283	26858	0.33	99
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	84340.2	28408.8	696.6	29105.4	0.35	98
$\bar{X}$±95%CL	±3998.9	±4509.8	±485.2	±4549.9	±0.04	±0.99
N	5	5	5	5	5	5
76-85	75210.0	25512.3	954.3	26466.6	0.35	96
$\bar{X}$±95%CL	±7876.0	±3058.7	±335.5	±2996.5	±0.02	±1.27
N	10	10	10	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS:
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2b. Summary of recreational Atlantic salmon catch and effort data for Newfoundland Region (Insular), 1953-86.

NEWFOUNDLAND REGION (INSULAR)

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	27955	7519	707	8226	0.29	.
1954	16974	3071	559	3630	0.21	93
1955	11183	4704	394	5098	0.46	89
1956	33532	7660	609	8269	0.25	89
1957	17514	7927	690	8617	0.49	92
1958	16593	9178	876	10054	0.61	90
1959	17570	7972	713	8685	0.49	93
1960	17530	6732	634	7366	0.42	93
1961	13730	4476	302	4778	0.35	96
1962	21641	9201	711	9912	0.46	86
1963	26824	10122	551	10673	0.40	94
1964	34886	15435	846	16281	0.47	92
1965	34083	11895	548	12443	0.37	97
1966	34073	13361	384	13745	0.40	97
1967	38067	9391	178	9569	0.25	99
1968	40004	16244	372	16616	0.42	96
1969	40347	16181	289	16470	0.41	98
1970	38933	15485	180	15665	0.40	99
1971	38417	12933	218	13151	0.34	99
1972	33487	12656	142	12798	0.38	99
1973	46180	19286	164	19450	0.42	99
1974	67894	15518	171	15689	0.23	99
1975	60191	16059	245	16304	0.27	98
1976	64853	16402	320	16722	0.26	98
1977	69057	21375	1186	22561	0.33	93
1978	63599	19723	616	20339	0.32	97
1979	50199	17849	379	18228	0.36	98
1980	66625	23373	720	24093	0.36	96
1981	77884	30428	552	30980	0.40	98
1982	85200	25987	531	26518	0.31	98
1983	82167	21616	695	22311	0.27	97
1984	79740	24831	47	24878	0.31	100
1985	82783	26527	*	26527	0.32	100
1986	79009	24182	*	24182	0.31	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	81554.8	25877.8	456.3	26242.8	0.32	99
$\bar{x}\pm$95%CL	±3508.6	±3945.8	±449.3	±3922.5	±0.03	±1.00
N	5	5	4	5	5	5
76-85	72210.7	22811.1	560.7	23315.7	0.32	98
$\bar{x}\pm$95%CL	±7988.8	±3063.2	±242.0	±3036.4	±0.02	±1.05
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2c. Summary of recreational Atlantic salmon catch and effort data for Newfoundland Region (Labrador), 1953-86.

NEWFOUNDLAND REGION (LABRADOR)

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	100	350	150	500	5.00	.
1955	198	125	8	133	0.67	98
1956	101	20	0	20	0.20	100
1957	342	1022	49	1071	3.13	29
1958	366	849	20	869	2.37	98
1959	500	823	37	860	1.72	96
1960	399	558	39	597	1.50	95
1961	634	713	126	839	1.32	82
1962	611	764	58	822	1.35	92
1963	694	1372	58	1430	2.06	93
1964	1583	1916	121	2037	1.29	92
1965	1826	1544	236	1780	0.97	89
1966	2280	1978	362	2340	1.03	81
1967	1436	1085	195	1280	0.89	91
1968	1821	2131	309	2440	1.34	78
1969	1619	1612	120	1732	1.07	95
1970	2750	2447	241	2688	0.98	87
1971	2639	3007	239	3246	1.23	91
1972	2808	2524	344	2868	1.02	90
1973	5228	6061	577	6638	1.27	81
1974	2779	1761	512	2273	0.82	92
1975	2029	2903	173	3076	1.52	91
1976	3259	3228	520	3748	1.15	85
1977	3316	2932	693	3625	1.09	82
1978	3835	2118	584	2702	0.70	83
1979	3184	3217	490	3707	1.16	81
1980	2472	2862	552	3414	1.38	85
1981	1845	3493	300	3793	2.06	91
1982	3121	2833	541	3374	1.08	87
1983	3128	2372	298	2670	0.85	90
1984	3131	1948	325	2273	0.73	88
1985	2702	2009	194	2203	0.82	91
1986	3051	2393	283	2676	0.88	88
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	2785.4	2531.0	331.6	2862.6	1.03	89
$\bar{X}\pm$95%CL	±691.5	±798.5	±158.2	±866.2	±0.35	±1.85
N	5	5	5	5	5	5
76-85	2999.3	2701.2	449.7	3150.9	1.05	86
$\bar{X}\pm$95%CL	±388.0	±396.2	±114.0	±447.6	±0.19	±2.03
N	10	10	10	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS:
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR:
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2d. Summary of recreational Atlantic salmon catch and effort data for Management Zone 1, 1953-86.

MANAGEMENT ZONE: O1

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	.	.	.	.	.	.
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	.	.	.	.	.	.
1963	.	.	.	.	.	.
1964	44	18	3	21	0.48	.
1965	278	57	75	132	0.47	19
1966	397	367	252	619	1.56	18
1967	468	119	106	225	0.48	78
1968	748	192	222	414	0.55	35
1969	.	.	.	.	.	100
1970	420	275	129	404	0.96	.
1971	523	171	82	253	0.48	77
1972	690	450	170	620	0.90	50
1973	700	533	128	661	0.94	78
1974	469	101	268	369	0.79	67
1975	245	379	117	496	2.02	46
1976	928	891	368	1259	1.36	51
1977	809	688	533	1221	1.51	63
1978	694	875	432	1307	1.88	61
1979	1101	595	323	918	0.83	73
1980	711	677	231	908	1.28	72
1981	414	660	195	855	2.07	78
1982	742	784	363	1147	1.55	65
1983	694	468	136	604	0.87	85
1984	832	681	212	893	1.07	69
1985	946	642	135	777	0.82	83
1986	568	369	125	494	0.87	84
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	725.6	647.0	208.2	855.2	1.18	75.85
$\bar{x}$ ±95%CL	±246.9	±141.7	±115.6	±245.0	±0.37	±8.39
N	5	5	5	5	5	5
76-85	787.1	696.1	292.8	988.9	1.26	69.58
$\bar{x}$ ±95%CL	±132.8	±90.7	±94.7	±166.0	±0.24	±6.12
N	10	10	10	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2e. Summary of recreational Atlantic salmon catch and effort data for Management Zone 2, 1953-86.

MANAGEMENT ZONE: 02

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	100	350	150	500	5.00	.
1955	198	125	8	133	0.67	98
1956	101	20	0	20	0.20	100
1957	342	1022	49	1071	3.13	29
1958	366	849	20	869	2.37	98
1959	500	823	37	860	1.72	96
1960	399	558	39	597	1.50	95
1961	634	713	126	839	1.32	82
1962	611	764	58	822	1.35	92
1963	694	1372	58	1430	2.06	93
1964	1539	1898	118	2016	1.31	92
1965	1548	1487	161	1648	1.06	92
1966	1883	1611	110	1721	0.91	93
1967	968	966	89	1055	1.09	95
1968	1073	1939	87	2026	1.89	92
1969	1619	1612	120	1732	1.07	94
1970	2330	2172	112	2284	0.98	94
1971	2116	2836	157	2993	1.41	93
1972	2118	2074	174	2248	1.06	94
1973	4528	5528	449	5977	1.32	82
1974	2310	1660	244	1904	0.82	96
1975	1784	2524	56	2580	1.45	97
1976	2331	2337	152	2489	1.07	94
1977	2507	2244	160	2404	0.96	94
1978	3141	1243	152	1395	0.44	94
1979	2083	2622	167	2789	1.34	88
1980	1761	2185	321	2506	1.42	89
1981	1431	2833	105	2938	2.05	95
1982	2379	2049	178	2227	0.94	94
1983	2434	1904	162	2066	0.85	93
1984	2299	1267	113	1380	0.60	94
1985	1756	1367	59	1426	0.81	96
1986	2483	2024	158	2182	0.88	90
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	2059.8	1884.0	123.4	2007.4	0.97	94.32
$\bar{X}\pm$95%CL	±550.6	±779.4	±59.1	±797.3	±0.38	±0.96
N	5	5	5	5	5	5
76-85	2212.2	2005.1	156.9	2162.0	0.98	93.11
$\bar{X}\pm$95%CL	±344.4	±399.7	±48.7	±415.3	±0.25	±1.45
N	10	10	10	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2f. Summary of recreational Atlantic salmon catch and effort data for Management Zone 3, 1953-86.

MANAGEMENT ZONE: 03

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	77	58	8	66	0.86	.
1954	134	33	0	33	0.25	100
1955	36	11	0	11	0.31	100
1956	164	70	0	70	0.43	100
1957	68	47	0	47	0.69	100
1958	49	23	0	23	0.47	100
1959	82	14	0	14	0.17	100
1960	45	23	0	23	0.51	100
1961	160	58	1	59	0.37	96
1962	186	92	0	92	0.49	100
1963	353	190	0	190	0.54	100
1964	653	368	0	368	0.56	100
1965	889	677	4	681	0.77	99
1966	2258	1190	21	1211	0.53	97
1967	1725	459	2	461	0.27	100
1968	1801	1243	27	1270	0.71	94
1969	2118	945	45	990	0.47	97
1970	1207	784	1	785	0.65	100
1971	1175	742	11	753	0.64	99
1972	1195	498	0	498	0.42	100
1973	1667	1188	2	1190	0.71	100
1974	1890	839	4	843	0.45	100
1975	1948	1107	0	1107	0.57	100
1976	2284	947	1	948	0.42	100
1977	2249	1530	4	1534	0.68	100
1978	2030	758	1	759	0.37	100
1979	2514	2040	0	2040	0.81	100
1980	2585	1743	37	1780	0.69	98
1981	3113	2358	3	2361	0.76	100
1982	3907	2634	88	2722	0.70	96
1983	4075	1617	2	1619	0.40	100
1984	2248	1001	0	1001	0.45	100
1985	2355	1310	*	1310	0.56	100
1986	1430	772	*	772	0.54	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	3139.6	1784.0	23.3	1802.6	0.57	99.02
$\bar{X}\pm$95%CL	±1052.6	±859.7	±68.7	±894.5	±0.15	±1.67
N	5	5	4	5	5	5
76-85	2736.0	1593.8	15.1	1607.4	0.59	99.14
$\bar{X}\pm$95%CL	±517.0	±442.3	±22.8	±455.1	±0.10	±1.00
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2g. Summary of recreational Atlantic salmon catch and effort data for Management Zone 4, 1953-86.

MANAGEMENT ZONE: 04

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	8630	2984	501	3485	0.40	.
1954	7344	1172	428	1600	0.22	87
1955	5125	2367	249	2616	0.51	82
1956	10672	3892	458	4350	0.41	84
1957	8789	4423	527	4950	0.56	88
1958	5888	4364	637	5001	0.85	87
1959	6321	3700	520	4220	0.67	89
1960	7051	3441	509	3950	0.56	88
1961	5277	2118	162	2280	0.43	96
1962	8842	4397	482	4879	0.55	81
1963	10910	3710	332	4042	0.37	93
1964	15608	7237	680	7917	0.51	85
1965	13749	4233	318	4551	0.33	96
1966	15249	6433	194	6627	0.43	96
1967	13915	4163	63	4226	0.30	99
1968	15318	5938	201	6139	0.40	95
1969	13807	4024	114	4138	0.30	98
1970	15759	4849	47	4896	0.31	99
1971	11379	3783	58	3841	0.34	99
1972	10778	3444	24	3468	0.32	99
1973	14544	6710	49	6759	0.46	99
1974	22038	5373	82	5455	0.25	99
1975	22384	5943	166	6109	0.27	97
1976	24787	6683	188	6871	0.28	97
1977	28117	8396	1086	9482	0.34	86
1978	24131	8774	502	9276	0.38	94
1979	21496	8026	327	8353	0.39	96
1980	25172	9414	507	9921	0.39	94
1981	32282	13536	361	13897	0.43	96
1982	32929	9973	258	10231	0.31	98
1983	26649	8954	297	9251	0.35	97
1984	29633	9900	15	9915	0.33	100
1985	34329	12190	*	12190	0.36	100
1986	31650	9293	*	9293	0.29	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	31164.4	10910.6	232.8	11096.8	0.36	98.23
$\bar{x}\pm$95%CL	±3782.0	±2344.2	±240.6	±2371.3	±0.04	±1.31
N	5	5	4	5	5	5
76-85	27952.5	9584.6	393.4	9938.7	0.36	96.20
$\bar{x}\pm$95%CL	±3042.1	±1430.6	±231.0	±1387.7	±0.02	±2.23
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2h. Summary of recreational Atlantic salmon catch and effort data for Management Zone 5, 1953-86.

MANAGEMENT ZONE: 05

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	6209	1099	37	1136	0.18	.
1954	3302	499	29	528	0.16	97
1955	1764	815	35	850	0.48	93
1956	12072	1077	62	1139	0.09	93
1957	2326	822	44	866	0.37	96
1958	2719	1384	40	1424	0.52	95
1959	3063	1125	43	1168	0.38	97
1960	2580	767	14	781	0.30	99
1961	2185	409	36	445	0.20	96
1962	2639	973	62	1035	0.39	87
1963	4519	1546	61	1607	0.36	94
1964	4877	2376	63	2439	0.50	96
1965	5231	1803	33	1836	0.35	99
1966	4281	1431	35	1466	0.34	98
1967	3754	1569	25	1594	0.42	98
1968	3732	2226	44	2270	0.61	97
1969	5769	2605	27	2632	0.46	99
1970	3189	2226	35	2261	0.71	99
1971	5963	1680	38	1718	0.29	98
1972	2015	1895	20	1915	0.95	99
1973	3894	2112	12	2124	0.55	99
1974	9335	1637	21	1658	0.18	99
1975	7527	1988	23	2011	0.27	99
1976	6975	1898	65	1963	0.28	97
1977	10572	4616	44	4660	0.44	98
1978	9108	2858	28	2886	0.32	99
1979	3926	1331	20	1351	0.34	99
1980	8155	2702	29	2731	0.33	98
1981	8863	3488	35	3523	0.40	99
1982	9935	2433	53	2486	0.25	99
1983	10195	2357	170	2527	0.25	93
1984	12403	2703	1	2704	0.22	100
1985	11613	3484	*	3484	0.30	100
1986	11510	4053	*	4053	0.35	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	10601.8	2893.0	64.8	2944.8	0.28	98.14
$\bar{x}\pm$95%CL	±1745.0	±690.8	±116.8	±641.6	±0.05	±2.19
N	5	5	4	5	5	5
76-85	9174.5	2787.0	49.4	2831.5	0.31	98.34
$\bar{x}\pm$95%CL	±1743.6	±655.7	±37.5	±650.1	±0.04	±1.19
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2i. Summary of recreational Atlantic salmon catch and effort data for Management Zone 6, 1953-86.

MANAGEMENT ZONE: 06

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	6513	118	0	118	0.02	0
1954	2515	44	0	44	0.02	100
1955	628	92	0	92	0.15	100
1956	4402	92	2	94	0.02	98
1957	805	87	0	87	0.11	100
1958	592	115	0	115	0.19	100
1959	535	55	0	55	0.10	100
1960	547	54	0	54	0.10	100
1961	512	19	0	19	0.04	100
1962	575	53	0	53	0.09	100
1963	837	93	1	94	0.11	98
1964	978	92	0	92	0.09	100
1965	871	85	3	88	0.10	97
1966	935	90	0	90	0.10	100
1967	1480	89	0	89	0.06	100
1968	1126	120	0	120	0.11	100
1969	917	106	0	106	0.12	100
1970	650	84	3	87	0.13	97
1971	710	55	1	56	0.08	99
1972	1345	119	0	119	0.09	100
1973	1683	250	0	250	0.15	100
1974	2685	303	1	304	0.11	100
1975	1851	94	1	95	0.05	100
1976	2864	247	2	249	0.09	98
1977	1869	401	19	420	0.22	93
1978	2237	296	7	303	0.14	98
1979	1766	244	2	246	0.14	99
1980	2807	320	14	334	0.12	95
1981	3406	605	29	634	0.19	92
1982	3031	288	17	305	0.10	97
1983	3684	296	10	306	0.08	97
1984	3218	312	5	317	0.10	98
1985	2256	429	*	429	0.19	100
1986	2596	445	*	445	0.17	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	3119.0	386.0	15.3	398.2	0.13	96.76
$\bar{X}\pm$95%CL	±669.7	±167.7	±16.5	±175.9	±0.04	±2.46
N	5	5	4	5	5	5
76-85	2713.8	343.8	11.7	354.3	0.13	96.73
$\bar{X}\pm$95%CL	±468.2	±78.1	±6.8	±82.6	±0.02	±1.68
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2j. Summary of recreational Atlantic salmon catch and effort data for Management Zone 7, 1953-86.

MANAGEMENT ZONE: 07

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	244	43	0	43	0.18	0
1954	41	5	0	5	0.12	100
1955	7	0	0	0	0.00	100
1956	307	27	1	28	0.09	0
1957	59	24	1	25	0.42	96
1958	72	19	0	19	0.26	100
1959	134	13	0	13	0.10	100
1960	128	25	1	26	0.20	93
1961	54	7	2	9	0.17	93
1962	.	.	.	.	.	100
1963	275	36	0	36	0.13	0
1964	660	59	0	59	0.09	100
1965	762	165	1	166	0.22	98
1966	647	97	0	97	0.15	100
1967	997	78	0	78	0.08	100
1968	829	31	1	32	0.04	99
1969	1216	33	0	33	0.03	100
1970	1103	20	1	21	0.02	97
1971	1295	40	0	40	0.03	100
1972	875	61	0	61	0.07	100
1973	1167	131	0	131	0.11	100
1974	2019	133	2	135	0.07	98
1975	1436	40	0	40	0.03	100
1976	1128	30	0	30	0.03	100
1977	1775	78	1	79	0.04	97
1978	1786	99	1	100	0.06	99
1979	1332	125	0	125	0.09	100
1980	1546	102	1	103	0.07	99
1981	1348	123	2	125	0.09	98
1982	1621	155	10	165	0.10	92
1983	1804	139	34	173	0.10	82
1984	1381	96	4	100	0.07	97
1985	1635	112	*	112	0.07	100
1986	700	102	*	102	0.15	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	1557.8	125.0	12.5	135.0	0.09	92.48
$\bar{x}\pm$95%CL	±237.0	±28.5	±23.4	±40.2	±0.01	±7.53
N	5	5	4	5	5	5
76-85	1535.6	105.9	5.9	111.2	0.07	94.90
$\bar{x}\pm$95%CL	±164.5	±24.8	±8.4	±29.2	±0.01	±5.32
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2k. Summary of recreational Atlantic salmon catch and effort data for Management Zone 8, 1953-86.

MANAGEMENT ZONE: 08

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	50	6	0	6	0.12	0
1954	.	.	.	.	.	100
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	.	.	.	.	.	.
1963	.	.	.	.	.	.
1964	.	.	.	.	.	.
1965	17	44	6	50	2.94	.
1966	100	32	2	34	0.34	96
1967	.	.	.	.	.	100
1968	166	22	0	22	0.13	0
1969	16	12	0	12	0.75	100
1970	.	.	.	.	.	100
1971	290	25	9	34	0.12	.
1972	270	28	0	28	0.10	100
1973	410	94	4	98	0.24	88
1974	659	51	0	51	0.08	100
1975	527	87	0	87	0.17	100
1976	514	80	0	80	0.16	100
1977	530	81	0	81	0.15	100
1978	269	44	0	44	0.16	100
1979	331	100	0	100	0.30	100
1980	316	120	0	120	0.38	100
1981	384	77	0	77	0.20	100
1982	538	85	9	94	0.17	90
1983	414	41	5	46	0.11	94
1984	357	79	0	79	0.22	100
1985	611	103	*	103	0.17	100
1986	696	138	*	138	0.20	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	460.8	77.0	3.5	79.8	0.17	96.63
$\bar{x}\pm$95%CL	±135.1	±28.0	±6.9	±26.9	±0.03	±4.29
N	5	5	4	5	5	5
76-85	426.4	81.0	1.6	82.4	0.19	98.27
$\bar{x}\pm$95%CL	±81.8	±17.4	±2.4	±17.0	±0.04	±2.35
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS:
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR:
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 21. Summary of recreational Atlantic salmon catch and effort data for Management Zone 9, 1953-86.

MANAGEMENT ZONE: 09

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	3012	1954	44	1998	0.66	.
1954	1712	617	32	649	0.38	98
1955	1701	673	36	709	0.42	94
1956	2411	1319	22	1341	0.56	97
1957	2602	1355	48	1403	0.54	96
1958	3094	1350	51	1401	0.45	96
1959	3557	1447	52	1499	0.42	96
1960	4223	937	46	983	0.23	97
1961	2681	705	17	722	0.27	98
1962	3685	1002	38	1040	0.28	95
1963	4311	1620	48	1668	0.39	95
1964	6044	1295	23	1318	0.22	99
1965	5214	1852	76	1928	0.37	94
1966	3416	822	13	835	0.24	99
1967	7421	900	17	917	0.12	98
1968	5264	1105	1	1106	0.21	100
1969	6976	1422	9	1431	0.21	99
1970	7701	1893	12	1905	0.25	99
1971	6704	1620	19	1639	0.24	99
1972	5633	1139	8	1147	0.20	100
1973	7660	2160	20	2180	0.28	98
1974	9162	1494	9	1503	0.16	100
1975	10046	1872	6	1878	0.19	100
1976	8809	1623	12	1635	0.19	99
1977	8766	1080	9	1089	0.12	99
1978	7224	1303	17	1320	0.18	98
1979	5859	1704	15	1719	0.29	99
1980	6446	2379	61	2440	0.38	97
1981	6343	1862	52	1914	0.30	98
1982	8574	1825	33	1858	0.22	98
1983	10754	2303	71	2374	0.22	96
1984	8754	2264	5	2269	0.26	100
1985	9385	1750	*	1750	0.19	100
1986	8807	2298	*	2298	0.26	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	8762.0	2000.8	40.3	2033.0	0.23	98.51
$\bar{X}\pm$95%CL	±1986.9	±324.7	±44.8	±338.2	±0.03	±1.30
N	5	5	4	5	5	5
76-85	8091.4	1809.3	30.6	1836.8	0.23	98.51
$\bar{X}\pm$95%CL	±1116.0	±303.0	±19.0	±314.0	±0.04	±0.85
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2m. Summary of recreational Atlantic salmon catch and effort data for Management Zone 10, 1953-86.

MANAGEMENT ZONE: 10

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	2216	712	44	756	0.34	.
1954	1486	356	37	393	0.26	95
1955	1584	306	29	335	0.21	92
1956	2814	425	14	439	0.16	96
1957	2064	484	30	514	0.25	93
1958	3046	1043	65	1108	0.36	88
1959	2525	657	33	690	0.27	97
1960	2197	511	23	534	0.24	97
1961	1507	236	2	238	0.16	100
1962	3658	679	68	747	0.20	78
1963	3785	1058	38	1096	0.29	95
1964	3507	1408	18	1426	0.41	98
1965	4591	875	43	918	0.20	97
1966	4334	820	22	842	0.19	98
1967	4942	333	4	337	0.07	100
1968	6641	1387	6	1393	0.21	98
1969	3800	979	29	1008	0.27	98
1970	3899	601	7	608	0.16	99
1971	4796	928	17	945	0.20	97
1972	5841	567	4	571	0.10	100
1973	8714	1785	42	1827	0.21	93
1974	10987	1212	14	1226	0.11	99
1975	5999	427	9	436	0.07	99
1976	8811	730	10	740	0.08	98
1977	7213	1097	5	1102	0.15	99
1978	8764	1595	42	1637	0.19	96
1979	6405	849	8	857	0.13	100
1980	9588	1524	27	1551	0.16	97
1981	9309	1317	29	1346	0.14	98
1982	9331	1256	10	1266	0.14	99
1983	9173	1140	79	1219	0.13	94
1984	6361	1457	2	1459	0.23	100
1985	6887	1326	*	1326	0.19	100
1986	6387	1535	*	1535	0.24	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	8212.2	1299.2	30.0	1323.2	0.16	98.24
$\bar{x}\pm$95%CL	±1816.4	±143.1	±55.0	±112.9	±0.03	±2.09
N	5	5	4	5	5	5
76-85	8184.2	1229.1	23.6	1250.3	0.15	98.17
$\bar{x}\pm$95%CL	±934.9	±200.8	±18.9	±204.6	±0.02	±1.30
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 2n. Summary of recreational Atlantic salmon catch and effort data for Management Zone 11, 1953-86.

MANAGEMENT ZONE: 11

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	1004	545	73	618	0.62	.
1954	440	345	33	378	0.86	94
1955	338	440	45	485	1.43	88
1956	690	758	50	808	1.17	90
1957	801	685	40	725	0.91	95
1958	1133	880	83	963	0.85	89
1959	1353	961	65	1026	0.76	93
1960	759	974	41	1015	1.34	96
1961	1354	924	82	1006	0.74	92
1962	2056	2005	61	2066	1.00	94
1963	1834	1869	71	1940	1.06	97
1964	2559	2600	62	2662	1.04	97
1965	2759	2161	64	2225	0.81	98
1966	2813	2446	97	2543	0.90	96
1967	3833	1800	67	1867	0.49	97
1968	5127	4172	92	4264	0.83	95
1969	5728	6055	65	6120	1.07	98
1970	5425	5028	74	5102	0.94	99
1971	6105	4060	65	4125	0.68	99
1972	5535	4905	86	4991	0.90	98
1973	6441	4856	35	4891	0.76	99
1974	9119	4476	38	4514	0.50	99
1975	8473	4501	40	4541	0.54	99
1976	8681	4164	42	4206	0.48	99
1977	7966	4096	18	4114	0.52	100
1978	8050	3996	18	4014	0.50	100
1979	6570	3430	7	3437	0.52	100
1980	10010	5069	44	5113	0.51	99
1981	12836	7062	41	7103	0.55	99
1982	15334	7338	53	7391	0.48	99
1983	15419	4769	27	4796	0.31	100
1984	15385	7019	15	7034	0.46	100
1985	13712	5823	*	5823	0.42	100
1986	15233	5546	*	5546	0.36	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	14537.2	6402.2	34.0	6429.4	0.44	99.57
$\bar{x}\pm$95%CL	±1483.0	±1345.1	±26.3	±1357.2	±0.07	±0.29
N	5	5	4	5	5	5
76-85	11396.3	5276.6	29.4	5303.1	0.47	99.49
$\bar{x}\pm$95%CL	±2507.5	±1032.6	±12.2	±1037.2	±0.05	±0.22
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS:
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR:
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 3. Summary of recreational Atlantic salmon catch and effort data for Salmon River (Ariege R.) (Hare Bay), 1953-86.

RIVER: SALMON RIVER (ARIEGE R.) (HARE BAY) CODE: 03008500

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	50	28	0	28	0.56	.
1954	66	7	0	7	0.11	100
1955	36	11	0	11	0.31	100
1956	113	48	0	48	0.42	100
1957	33	22	0	22	0.67	100
1958	34	15	0	15	0.44	100
1959	27	3	0	3	0.11	100
1960	6	2	0	2	0.33	100
1961	21	4	1	5	0.24	67
1962	33	7	0	7	0.21	100
1963	56	51	0	51	0.91	100
1964	54	27	0	27	0.50	100
1965	46	55	0	55	1.20	100
1966	50	85	0	85	1.70	100
1967	241	130	0	130	0.54	100
1968	62	132	0	132	2.13	100
1969	37	118	0	118	3.19	100
1970	43	129	0	129	3.00	100
1971	143	172	1	173	1.21	99
1972	222	135	0	135	0.61	100
1973	418	398	2	400	0.96	99
1974	379	156	4	160	0.42	99
1975	276	164	0	164	0.59	100
1976	383	141	1	142	0.37	99
1977	348	256	4	260	0.75	97
1978	323	177	1	178	0.55	100
1979	378	375	0	375	0.99	100
1980	167	93	0	93	0.56	100
1981	296	291	0	291	0.98	100
1982	304	293	0	293	0.96	100
1983	326	331	0	331	1.02	100
1984	359	317	0	317	0.88	100
1985	273	289	*	289	1.06	100
1986	116	119	*	119	1.03	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	311.6	304.2	0.0	304.2	0.98	100
$\bar{X}\pm$95%CL	±40.4	±23.3	±0.0	±23.3	±0.05	±0.00
N	5	5	4	5	5	5
76-85	315.7	256.3	0.7	256.9	0.81	100
$\bar{X}\pm$95%CL	±45.2	±64.5	±1.0	±64.3	±0.15	±0.35
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 4. Summary of recreational Atlantic salmon catch and effort data for Northeast Brook, 1953-86.

RIVER: NORTHEAST BROOK CODE: 04016700

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	.	.	.	.	.	.
1955	.	.	.	.	.	.
1956	25	19	0	19	0.76	.
1957	.	.	.	.	.	100
1958	.	.	.	.	.	.
1959	11	4	0	4	0.36	.
1960	18	6	0	6	0.33	100
1961	17	25	0	25	1.47	100
1962	23	20	0	20	0.87	100
1963	22	18	0	18	0.82	100
1964	27	27	0	27	1.00	100
1965	25	53	0	53	2.12	100
1966	37	89	1	90	2.43	98
1967	102	74	0	74	0.73	100
1968	39	58	0	58	1.49	100
1969	32	54	0	54	1.69	100
1970	30	42	0	42	1.40	100
1971	101	69	0	69	0.68	100
1972	60	45	0	45	0.75	100
1973	116	135	0	135	1.16	100
1974	106	82	0	82	0.77	100
1975	42	40	0	40	0.95	100
1976	98	68	0	68	0.69	100
1977	182	217	0	217	1.19	100
1978	150	104	0	104	0.69	100
1979	187	156	0	156	0.83	100
1980	231	135	0	135	0.58	100
1981	332	197	1	198	0.60	99
1982	301	155	0	155	0.51	100
1983	325	180	1	181	0.56	99
1984	105	71	0	71	0.68	100
1985	94	52	*	52	0.55	100
1986	18	15	*	15	0.83	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	231.4	131.0	0.5	131.4	0.57	100
$\bar{x}$ ±95%CL	±150.2	±81.3	±0.9	±81.9	±0.04	±0.33
N	5	5	4	5	5	5
76-85	200.5	133.5	0.2	133.7	0.67	100
$\bar{x}$ ±95%CL	±66.5	±41.1	±0.3	±41.3	±0.12	±0.19
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 5. Summary of recreational Atlantic salmon catch and effort data for Beaver Brook (Western Brook), 1953-86.

RIVER: BEAVER BROOK (WESTERN BROOK) CODE: 04016900

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	5	15	1	16	3.20	.
1954	.	.	.	.	.	100
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	1	0	0	0	0.00	.
1963	.	.	.	.	.	0
1964	.	.	.	.	.	.
1965	.	.	.	.	.	.
1966	.	.	.	.	.	.
1967	82	54	0	54	0.66	.
1968	25	86	1	87	3.48	98
1969	23	30	0	30	1.30	100
1970	25	83	0	83	3.32	100
1971	67	83	0	83	1.24	100
1972	43	28	0	28	0.65	100
1973	102	163	0	163	1.60	100
1974	76	83	0	83	1.09	100
1975	84	60	0	60	0.71	100
1976	114	67	0	67	0.59	100
1977	158	154	0	154	0.97	100
1978	159	90	0	90	0.57	100
1979	191	180	0	180	0.94	100
1980	300	284	2	286	0.95	99
1981	436	296	0	296	0.68	100
1982	317	165	1	166	0.52	100
1983	302	134	0	134	0.44	100
1984	198	88	0	88	0.44	100
1985	117	82	*	82	0.70	100
1986	29	19	*	19	0.66	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	274.0	153.0	0.3	153.2	0.56	100
$\bar{X}\pm$95%CL	±151.1	±107.9	±0.7	±107.9	±0.11	±0.17
N	5	5	4	5	5	5
76-85	229.2	154.0	0.3	154.3	0.67	100
$\bar{X}\pm$95%CL	±75.0	±58.1	±0.5	±58.4	±0.13	±0.25
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 6. Summary of recreational Atlantic salmon catch and effort data for Cloud River, 1953-86.

RIVER: CLOUD RIVER CODE: 04018500

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	5	5	6	11	2.20	.
1954	.	.	.	.	.	100
1955	.	.	.	.	.	.
1956	8	3	0	3	0.38	.
1957	31	23	0	23	0.74	100
1958	5	5	0	5	1.00	100
1959	4	2	0	2	0.50	100
1960	2	1	0	1	0.50	100
1961	3	1	0	1	0.33	100
1962	5	0	0	0	0.00	100
1963	13	3	0	3	0.23	0
1964	8	2	0	2	0.25	100
1965	6	5	0	5	0.83	100
1966	10	10	0	10	1.00	100
1967	19	15	0	15	0.79	100
1968	10	3	0	3	0.30	100
1969	11	4	1	5	0.45	75
1970	9	5	0	5	0.56	100
1971	7	2	0	2	0.29	100
1972	.	.	.	.	.	100
1973	62	42	0	42	0.68	.
1974	26	4	0	4	0.15	100
1975	11	2	0	2	0.18	100
1976	57	22	0	22	0.39	100
1977	64	64	0	64	1.00	100
1978	55	13	0	13	0.24	100
1979	16	4	0	4	0.25	100
1980	38	19	0	19	0.50	100
1981	109	48	0	48	0.44	100
1982	67	12	0	12	0.18	100
1983	155	68	0	68	0.44	100
1984	45	5	0	5	0.11	100
1985	65	29	*	29	0.45	100
1986	9	2	*	2	0.22	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	88.2	32.4	0.0	32.4	0.37	100
$\bar{x}$ ±95%CL	±54.6	±32.1	±0.0	±32.1	±0.11	±0.00
N	5	5	4	5	5	5
76-85	67.1	28.4	0.0	28.4	0.42	100
$\bar{x}$ ±95%CL	±27.9	±16.8	±0.0	±16.8	±0.13	±0.00
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 7. Summary of recreational Atlantic salmon catch and effort data for Main River (Sops Arm), 1953-86.

RIVER: MAIN RIVER (SOPS ARM) CODE: 04031100

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	17	10	1	11	0.65	.
1954	48	25	0	25	0.52	100
1955	.	.	.	.	.	100
1956	18	0	0	0	0.00	.
1957	4	2	0	2	0.50	0
1958	10	3	0	3	0.30	100
1959	40	5	0	5	0.13	100
1960	5	2	0	2	0.40	100
1961	110	24	0	24	0.22	100
1962	112	60	0	60	0.54	100
1963	164	89	0	89	0.54	100
1964	465	284	0	284	0.61	100
1965	666	538	4	542	0.81	99
1966	1350	911	20	931	0.69	96
1967	891	128	1	129	0.14	100
1968	1036	749	26	775	0.75	83
1969	1625	690	44	734	0.45	94
1970	832	472	1	473	0.57	100
1971	713	405	9	414	0.58	98
1972	703	281	0	281	0.40	100
1973	685	409	0	409	0.60	100
1974	797	464	0	464	0.58	100
1975	1231	782	0	782	0.64	100
1976	1082	501	0	501	0.46	100
1977	1041	693	0	693	0.67	100
1978	616	252	0	252	0.41	100
1979	830	983	0	983	1.18	100
1980	916	976	35	1011	1.10	97
1981	1098	1275	2	1277	1.16	100
1982	1848	1620	87	1707	0.92	94
1983	1812	482	1	483	0.27	100
1984	723	302	0	302	0.42	100
1985	1051	599	*	599	0.57	100
1986	979	489	*	489	0.50	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	1306.4	855.6	22.5	873.6	0.67	98
$\bar{X}\pm$95%CL	±620.2	±700.2	±68.4	±737.7	±0.35	±3.27
N	5	5	4	5	5	5
76-85	1101.7	768.3	13.9	780.8	0.71	98
$\bar{X}\pm$95%CL	±297.4	±314.8	±22.8	±329.9	±0.23	±1.98
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS:
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR:
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 8. Summary of recreational Atlantic salmon catch and effort data for East Brook (Burlington Brook), 1953-86.

RIVER: EAST BROOK (BURLINGTON BROOK) CODE: 06048200

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	.	.	.	.	.	.
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	.	.	.	.	.	.
1963	.	.	.	.	.	.
1964	48	10	0	10	0.21	.
1965	22	3	0	3	0.14	100
1966	387	59	0	59	0.15	100
1967	210	71	0	71	0.34	100
1968	93	31	0	31	0.33	100
1969	310	60	2	62	0.20	94
1970	114	87	0	87	0.76	100
1971	189	44	0	44	0.23	100
1972	193	44	0	44	0.23	100
1973	181	25	0	25	0.14	100
1974	93	19	0	19	0.20	100
1975	95	16	0	16	0.17	100
1976	181	28	2	30	0.17	89
1977	197	26	0	26	0.13	100
1978	144	33	0	33	0.23	100
1979	173	43	0	43	0.25	100
1980	177	63	0	63	0.36	100
1981	287	145	0	145	0.51	100
1982	252	84	1	85	0.34	99
1983	534	234	0	234	0.44	100
1984	188	118	0	118	0.63	100
1985	235	91	*	91	0.39	100
1986	134	23	*	23	0.17	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	299.2	134.4	0.3	134.6	0.45	100
$\bar{X}\pm$95%CL	±168.8	±75.3	±0.7	±75.0	±0.07	±0.30
N	5	5	4	5	5	5
76-85	236.8	86.5	0.3	86.8	0.37	100
$\bar{X}\pm$95%CL	±80.6	±46.8	±0.5	±46.6	±0.08	±0.59
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 9. Summary of recreational Atlantic salmon catch and effort data for Charles Brook, 1953-86.

RIVER: CHARLES BROOK CODE: 07076600

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	.	.	.	.	.	.
1954	.	.	.	.	.	.
1955	.	.	.	.	.	.
1956	.	.	.	.	.	.
1957	.	.	.	.	.	.
1958	.	.	.	.	.	.
1959	.	.	.	.	.	.
1960	.	.	.	.	.	.
1961	.	.	.	.	.	.
1962	.	.	.	.	.	.
1963	.	.	.	.	.	.
1964	.	.	.	.	.	.
1965	.	.	.	.	.	.
1966	.	.	.	.	.	.
1967	.	.	.	.	.	.
1968	.	.	.	.	.	.
1969	.	.	.	.	.	.
1970	.	.	.	.	.	.
1971	.	.	.	.	.	.
1972	.	.	.	.	.	.
1973	.	.	.	.	.	.
1974	.	.	.	.	.	.
1975	.	.	.	.	.	.
1976	.	.	.	.	.	.
1977	.	.	.	.	.	.
1978	562	340	0	340	0.60	.
1979	71	26	0	26	0.37	100
1980	414	161	0	161	0.39	100
1981	471	275	0	275	0.58	100
1982	904	381	0	381	0.42	100
1983	533	316	0	316	0.59	100
1984	364	315	0	315	0.87	100
1985	240	21	*	21	0.09	100
1986	106	0	*	0	0.00	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	502.4	261.6	0.0	261.6	0.52	100
$\bar{x}\pm$95%CL	±311.1	±173.5	±0.0	±173.5	±0.16	±0.00
N	5	5	4	5	5	5
76-85	444.9	229.4	0.0	229.4	0.52	100
$\bar{x}\pm$95%CL	±205.3	±118.9	±0.0	±118.9	±0.12	±0.00
N	8	8	7	8	8	7

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 10. Summary of recreational Atlantic salmon catch and effort data for Indian Arm Brook (Campbellton River), 1953-86.

RIVER: INDIAN ARM BROOK (CAMPBELLTON RIVER) CODE: 07082100

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	346	126	0	126	0.36	.
1954	587	101	1	102	0.17	99
1955	56	61	0	61	1.09	100
1956	341	119	0	119	0.35	100
1957	291	103	2	105	0.36	98
1958	592	387	60	447	0.76	63
1959	325	291	12	303	0.93	97
1960	313	263	2	265	0.85	99
1961	209	146	0	146	0.70	100
1962	397	143	4	147	0.37	97
1963	1242	397	24	421	0.34	86
1964	1066	485	11	496	0.47	97
1965	647	451	17	468	0.72	97
1966	881	688	1	689	0.78	100
1967	815	487	0	487	0.60	100
1968	1577	685	58	743	0.47	89
1969	992	533	1	534	0.54	100
1970	660	436	1	437	0.66	100
1971	622	298	1	299	0.48	100
1972	452	208	2	210	0.46	99
1973	1344	964	7	971	0.72	97
1974	1956	505	0	505	0.26	100
1975	1768	424	63	487	0.28	89
1976	2042	834	0	834	0.41	100
1977	2134	895	17	912	0.43	98
1978	1314	426	3	429	0.33	100
1979	53	23	0	23	0.43	100
1980	2298	1112	0	1112	0.48	100
1981	2950	1547	2	1549	0.53	100
1982	1674	471	2	473	0.28	100
1983	1619	597	0	597	0.37	100
1984	2657	991	1	992	0.37	100
1985	3219	782	*	782	0.24	100
1986	1791	422	*	422	0.24	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	2423.8	877.6	1.3	878.6	0.36	100
$\bar{x}$ ±95%CL	±915.2	±524.6	±1.5	±525.1	±0.11	±0.07
N	5	5	4	5	5	5
76-85	1996.0	767.8	2.8	770.3	0.39	100
$\bar{x}$ ±95%CL	±650.4	±300.2	±4.1	±300.6	±0.07	±0.42
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 11. Summary of recreational Atlantic salmon catch and effort data for Gander River, 1953-86.

RIVER: GANDER RIVER CODE: 09086100

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	2430	976	382	1358	0.56	.
1954	1831	370	207	577	0.32	83
1955	1010	738	206	944	0.93	64
1956	2250	1647	303	1950	0.87	71
1957	2815	2374	473	2847	1.01	78
1958	2751	1950	417	2367	0.86	85
1959	2391	2273	409	2682	1.12	83
1960	2466	1785	368	2153	0.87	86
1961	1794	1035	107	1142	0.64	94
1962	2042	1847	345	2192	1.07	75
1963	1972	1044	167	1211	0.61	92
1964	2762	2731	436	3167	1.15	71
1965	2310	1171	253	1424	0.62	92
1966	2322	2034	127	2161	0.93	90
1967	2096	1348	32	1380	0.66	98
1968	1981	1130	64	1194	0.60	95
1969	2680	858	3	861	0.32	100
1970	2388	1308	3	1311	0.55	100
1971	2142	1048	33	1081	0.50	98
1972	3197	1267	3	1270	0.40	100
1973	3047	1837	0	1837	0.60	100
1974	5153	2270	19	2289	0.44	99
1975	6670	2976	38	3014	0.45	98
1976	6633	2374	132	2506	0.38	96
1977	6939	2269	927	3196	0.46	72
1978	8322	3332	389	3721	0.45	85
1979	7217	4199	318	4517	0.63	91
1980	6384	2664	268	2932	0.46	94
1981	10643	4578	249	4827	0.45	91
1982	8026	2176	205	2381	0.30	96
1983	6934	2033	239	2272	0.33	90
1984	7590	2028	13	2041	0.27	99
1985	10207	3358	*	3358	0.33	100
1986	9740	2361	*	2361	0.24	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	8680.0	2834.6	176.5	2975.8	0.34	95
$\bar{x}$ ±95%CL	±2044.9	±1393.8	±176.0	±1428.7	±0.06	±3.24
N	5	5	4	5	5	5
76-85	7889.5	2901.1	304.4	3175.1	0.40	91
$\bar{x}$ ±95%CL	±1049.2	±660.2	±197.5	±678.6	±0.06	±4.98
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 12. Summary of recreational Atlantic salmon catch and effort data for Garnish River, 1953-86.

RIVER: GARNISH RIVER CODE: 33084400

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	38	8	0	8	0.21	.
1954	14	3	0	3	0.21	100
1955	1	0	0	0	0.00	100
1956	16	7	0	7	0.44	0
1957	.	.	.	.	.	100
1958	20	11	0	11	0.55	.
1959	17	17	0	17	1.00	100
1960	49	9	0	9	0.18	100
1961	28	5	0	5	0.18	100
1962	94	33	0	33	0.35	100
1963	28	15	0	15	0.54	100
1964	110	54	0	54	0.49	100
1965	231	91	0	91	0.39	100
1966	144	61	0	61	0.42	100
1967	656	389	0	389	0.59	100
1968	970	977	0	977	1.01	100
1969	1263	2637	0	2637	2.09	100
1970	1318	2071	1	2072	1.57	100
1971	1154	1382	6	1388	1.20	100
1972	1144	1242	0	1242	1.09	100
1973	1223	1080	0	1080	0.88	100
1974	1117	1076	0	1076	0.96	100
1975	1214	646	0	646	0.53	100
1976	1334	675	2	677	0.51	100
1977	1719	1018	1	1019	0.59	100
1978	1530	770	2	772	0.50	100
1979	1340	596	1	597	0.45	100
1980	2015	1024	8	1032	0.51	99
1981	2246	1096	5	1101	0.49	100
1982	2960	1187	2	1189	0.40	100
1983	2507	712	0	712	0.28	100
1984	2339	856	0	856	0.37	100
1985	2001	563	*	563	0.28	100
1986	1577	446	*	446	0.28	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	2410.6	882.8	1.8	884.2	0.37	100
$\bar{X}\pm$95%CL	±443.8	±322.6	±3.7	±324.6	±0.07	±0.19
N	5	5	4	5	5	5
76-85	1999.1	849.7	2.3	851.8	0.43	100
$\bar{X}\pm$95%CL	±379.5	±157.3	±1.9	±158.3	±0.06	±0.19
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 13. Summary of recreational Atlantic salmon catch and effort data for Long Harbour River (Fortune Bay), 1953-86.

RIVER: LONG HARBOUR RIVER (FORTUNE BAY) CODE: 34097800

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	112	49	9	58	0.52	.
1954	68	31	2	33	0.49	96
1955	26	8	3	11	0.42	91
1956	64	49	2	51	0.80	80
1957	31	15	2	17	0.55	96
1958	55	65	3	68	1.24	83
1959	47	61	2	63	1.34	97
1960	29	58	1	59	2.03	98
1961	42	28	0	28	0.67	100
1962	102	129	3	132	1.29	90
1963	78	182	1	183	2.35	99
1964	255	386	5	391	1.53	97
1965	238	468	0	468	1.97	100
1966	84	274	1	275	3.27	100
1967	264	114	3	117	0.44	99
1968	246	269	9	278	1.13	93
1969	383	408	1	409	1.07	100
1970	359	391	2	393	1.09	100
1971	221	126	9	135	0.61	98
1972	210	338	1	339	1.61	99
1973	395	380	0	380	0.96	100
1974	310	120	3	123	0.40	99
1975	346	240	0	240	0.69	100
1976	422	438	7	445	1.05	97
1977	244	242	1	243	1.00	100
1978	404	396	0	396	0.98	100
1979	180	180	0	180	1.00	100
1980	425	593	1	594	1.40	99
1981	480	760	2	762	1.59	100
1982	614	431	1	432	0.70	100
1983	883	409	0	409	0.46	100
1984	810	765	0	765	0.94	100
1985	680	354	*	354	0.52	100
1986	362	174	*	174	0.48	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	693.4	543.8	0.8	544.4	0.79	100
$\bar{x}$ ±95%CL	±197.8	±250.3	±1.5	±250.8	±0.33	±0.12
N	5	5	4	5	5	5
76-85	514.2	456.8	1.3	458.0	0.89	100
$\bar{x}$ ±95%CL	±164.4	±140.2	±1.7	±140.3	±0.24	±0.32
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS;
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR;
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.

Appendix 14. Summary of recreational Atlantic salmon catch and effort data for Bay du Nord River, 1953-86.

RIVER: BAY DU NORD RIVER CODE: 34107900

YEAR	EFFORT ROD DAYS	GRILSE < 63 cm	SALMON ≥ 63 cm	TOTAL CATCH	CPUE	PERCENT GRILSE
1953	100	17	6	23	0.23	.
1954	11	3	0	3	0.27	100
1955	29	9	3	12	0.41	50
1956	46	7	7	14	0.30	56
1957	67	18	3	21	0.31	70
1958	73	30	6	36	0.49	75
1959	166	43	20	63	0.38	60
1960	145	22	9	31	0.21	83
1961	133	20	7	27	0.20	76
1962	149	35	7	42	0.28	74
1963	158	59	16	75	0.47	69
1964	171	37	2	39	0.23	97
1965	48	20	2	22	0.46	95
1966	128	11	4	15	0.12	83
1967	32	23	4	27	0.84	73
1968	35	38	12	50	1.43	66
1969	26	44	1	45	1.73	97
1970	41	51	0	51	1.24	100
1971	32	46	6	52	1.63	89
1972	28	46	9	55	1.96	84
1973	45	97	16	113	2.51	74
1974	323	58	4	62	0.19	96
1975	277	52	4	56	0.20	94
1976	265	40	1	41	0.15	98
1977	154	45	0	45	0.29	100
1978	293	69	2	71	0.24	96
1979	191	34	2	36	0.19	97
1980	357	119	15	134	0.38	69
1981	567	186	5	191	0.34	96
1982	765	105	19	124	0.16	91
1983	683	80	2	82	0.12	98
1984	528	114	4	118	0.22	95
1985	425	50	*	50	0.12	100
1986	497	43	*	43	0.09	100
MEANS, 95% CONFIDENCE LIMITS, N'S:						
81-85	593.6	107.0	7.5	113.0	0.19	95
$\bar{x}$±95%CL	±165.2	±62.9	±12.3	±65.5	±0.07	±3.87
N	5	5	4	5	5	5
76-85	422.8	84.2	5.6	89.2	0.21	94
$\bar{x}$±95%CL	±148.6	±33.9	±5.1	±36.5	±0.06	±3.87
N	10	10	9	10	10	10

PERCENT GRILSE IS CALCULATED BY SMOLT CLASS:
IN THE ABOVE TABLE A PERIOD INDICATES NO DATA FOR THAT YEAR:
* NOT ALLOWED TO RETAIN LARGE SALMON IN INSULAR NEWFOUNDLAND.